UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

DEC 13 1995

REPLY TO THE ATTENTION OF:

WU-17J

CERTIFIED MAIL Z 075 010 422
RETURN RECEIPT REQUESTED

Paul K. Choinski
Facility Manager
Detroit Coke Corporation
P.O. Box 09229
Detroit, Michigan 48209

Re: Approval of RCRA Facility Investigation Release Assessment Final Report

Dear Mr. Choinski:

The United States Environmental Protection Agency (USEPA) has completed its review of the above-referenced document which was submitted to our office on October 10, 1995. By this letter the USEPA grants approval of the Release Assessment (RA) Final Report. In general, the report and the recommendations contained therein appear reasonable with some exceptions or conditions as follows:

1. USEPA agrees that SWMUs 1, 2 and 20 be moved forward to the RCRA Facility Investigation (RFI) phase of the Corrective Action.

2. USEPA agrees to drop SWMU 18 from further investigation during the RFI phase of the Corrective Action.

3. USEPA agrees that upgradient water quality should be further evaluated by sampling and analysis of groundwater taken from P-6D-95.

4. If justified at this site, a perimeter approach to groundwater characterization is acceptable. USEPA cautions that based on results of groundwater sampling at the site perimeter, additional groundwater sampling at one or more SWMUs may be required.

5. USEPA agrees that no further soil sampling is necessary at SWMUs 1, 2 and 20 at this time, however, additional soil sampling and characterization of the site should be performed during the RFI in order to determine whether simple exposure control mechanisms are sufficient.

In addition to the recommendations contained in the RA Final Report, USEPA has the following comments on the RA and suggestions for the RFI.

6. It was agreed in an April 5, 1995 letter from Detroit Coke to USEPA that the Michigan Environmental Response Act; P.A. 307 Type B criteria would be the initial screening levels for the RA. However, the RA uses the newly promulgated Public Act 451, Part 201 generic residential and industrial direct contact criteria. Detroit Coke should be aware that the clean-up levels for the site will be determined during the RFI phase of the corrective action and that the use of Part 201 generic residential and industrial direct contact criteria in the RA in no way implies or obligates the USEPA to use these criteria as RFI target or clean-up levels. In addition, the MDEQ is continuing to use the Act 307 Cleanup Criteria for corrective action in its RCRA program. The MDEQ has indicated that it will continue to use the Act 307 Cleanup Criteria until it modifies its corrective action authorization package and receives approval from the U.S. EPA.

7. If it becomes possible in the future for Detroit Coke to use the new Part 201 generic and industrial direct contact standards rather than the Type B criteria, then it must be demonstrated that the exposure pathway assumptions used in generating the Part 201 standards are appropriate for this site. The demonstration should consider pathways and exposures with respect to residential areas 1000 feet from the site and to continued usage of the site.

8. Many decisions regarding the Corrective Action at the Detroit Coke facility hinge upon the future use of the site. The RA Final Report references future use of the site, but provides no information on what that use will be. The RFI workplan should contain detailed, specific information regarding the future of the site, including current zoning status of the site and adjacent properties, any proposed changes to zoning at the site or adjacent properties, and whether institutional controls will be used to ensure that the site remains industrial.

9. The RFI workplan should propose that sampling for the Appendix IX constituent list be performed early in the RFI process. This is in order to develop a comprehensive site target list. There are apparently unidentified contaminants on the site as evidenced by the matrix interference which in turn caused high detection limits for some samples.

10. The RFI workplan should contain a discussion on how contamination will be prevented from migrating from the shallow into the lower aquifers during the installation and

these piezometers are completed in the unconfined water table aquifer.

In addressing the comments related to the RA, submission of replacement pages rather than a new report is acceptable. As a reminder, Attachment H of Detroit Coke's UIC permits states at Part B.2.b. that the RFI workplan will be submitted "within 120 calendar days after receipt of EPA's approval of the RFI Release Assessment Final Report." Allowing 3 days for delivery of this letter to Detroit Coke, USEPA anticipates receipt of the RFI Workplan within 123 calendar days from the date on this letter. If you have any questions regarding the content or comments contained in this letter, please feel free to contact either Greg Rudloff at (312) 886-0455 or contact Allen Melcer at (312) 886-1498.

Sincerely yours,

Rebecca Harvey, Chief
for Underground Injection Control Section

cc: Steve Buda, MDEQ

bcc: Greg Rudloff, RCRA, HRPM-8J

JUL 07 1992

HRP-8J

Mr. Carl Curry
Environmental Manager
Detroit Coke Corporation
Box 09229
Detroit, Michigan 48209

Re: Visual Site Inspection
Detroit Coke Corporation
Detroit, Michigan
MID 099 114 704

Dear Mr. Curry:

The Detroit Coke Corporation is deemed to have a RCRA permit under the permits by rule provision for injection wells of 40 CFR 270.60(b). This provision requires compliance with 40 CFR 270.14(d), (Part B information requirements), and 40 CFR 264.101, (Corrective Action for Solid Waste Management Units) which includes performing a RCRA Facility Assessment (RFA).

The 1984 Hazardous and Solid Waste Amendments require corrective action for Solid Waste Management Units (SWMUs) at RCRA facilities. A RCRA Facility Assessment (RFA) will be conducted to determine the extent of corrective action which may be necessary at the Detroit Coke Corporation. The RFA includes a Preliminary Review (PR) of available file information, a visual site inspection (VSI) of the facility, and if necessary, a Sampling Visit.

The PR of this facility has been completed, and included a review of information Detroit Coke has submitted pursuant to the Underground Injection Control permit. The purpose of the VSI is to verify the location of all SWMUs and to make a cursory determination of their condition by visual observation. The VSI supplements and updates data gathered during the PR. During this site visit, no samples will be taken.

Assistance from your personnel may be required in reviewing solid waste management or previous disposal practices. This provides a technical understanding of the present and past waste flows and handling, treatment, storage and disposal practices. Photographs of each SWMU will be taken to document the condition of each unit at the facility and the waste management procedures used.

An introductory meeting has been scheduled for July 14, 1992 at 3:00 p.m. During this meeting, the purpose of the visit, inspection agenda, facility history and operations will be discussed. The VSI has been scheduled for July 15-16, 1992. The United States Environmental Protection Agency inspection personnel will consist of Mr. Greg Rudloff, Mr. Allen Melcer, and Mr. Chad Kincheloe. Your cooperation in admitting and assisting them while on site is appreciated.

If you have any further questions regarding this matter, please contact Mr. Greg Rudloff of my staff, at (312) 886-0455.

Sincerely,

ORIGINAL SIGNED BY
RICHARD T. TRAUB

Richard Traub, Chief
Michigan Section
RCRA Permitting Branch

cc: Steve Buda, MDNR
Larry Aubuchon, MDNR
Allen Melcer, U.S. EPA

SIGNATURE/INITIAL CONCURRENCE REQUESTED - RCRA PERMITTING BRANCH (RPB)										
TYPIS	AUTH.	ILS CHIEF	INS CHIEF	MIS CHIEF	MN/WI CHIEF	OHS CHIEF	SWS CHIEF	RPB CHIEF	RCRA ASOC.DR	WASTE MGMT. DIV.DIRECTOR
S.R.	D.R.									

RCRA FACILITY ASSESSMENT (RFA)

Preliminary Review/Visual Site Inspection

MID 099 114 704

Detroit Coke Corporation
7819 West Jefferson Avenue
Detroit, Michigan 48209

Prepared by

Gregory A. Rudloff
Geologist

Allen Melcer
Geologist

United States Environmental Protection Agency
77 West Jackson Blvd.
Chicago, Illinois 60604

December 2, 1992

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I. Executive Summary

Detroit Coke Corporation is located at 7819 West Jefferson Avenue in Detroit, Michigan. Detroit Coke is a coking plant which also produces coke oven gas and coal tar as by-products. Hazardous waste activities at Detroit Coke include recycling of decanter tank tar sludge, and underground injection of weak ammonia liquor.

Based on the information obtained during the file search (FS) and preliminary review (PR), a tentative list of 34 solid waste management units (SWMUs) and areas of concern (AOCs) were compiled. After conducting the VSI, a determination was made regarding the classification of each area of interest (SWMU, AOC, neither) and a numbering system developed for the SWMUs and the AOCs. It has been determined that the facility has 21 SWMUs and 11 AOCs. Tables 5 and 6 provide a list of the SWMUs and AOCs, respectively. The need for corrective action for the SWMUs and AOCs was assessed as part of the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA). Corrective action includes, at a minimum, further investigation to determine if a release has occurred and if so, the extent and nature of the contamination (RCRA Facility Investigation, RFI). Corrective action may also include activities associated with remediation of the contamination. A sampling visit (SV) is not necessary at this time. Both general and specific recommendations are provided in section II.

II. Conclusions and Recommendations

This RFA consists of the FS, PR, and VSI. Based upon this RFA the following conclusions and recommendations can be made:

A. Evidence of releases from some of the SWMUs and AOCs viewed, described, and photographed were observed.

B. A sampling visit is not necessary at this time.

C. Corrective action at SWMUs 1, 2, 3, 4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and AOCs 1, 2, 3, 4, 5, 7, 8, 10, and 11 is necessary at this time.

D. Detroit Coke must perform a RCRA Facility Investigation (RFI) to determine if a release has occurred at the SWMUs and AOCs identified in Comment C above. If a release has occurred (some releases from SWMUs and AOCs are known and have already been noted in this report), Detroit Coke must characterize the release, identifying the source of the contamination, the nature of the contamination, and the extent of the contamination.

E. Specific interim measure recommendations include:

1. The coal tar that has accumulated in the secondary containment for the tar storage tanks (SWMU 11) should be removed.

2. It should be verified that AOC 6 is a septic tank and has not been used for other purposes.

F. Specific recommendations include:

1. SWMUs 3, 4, and 10 should be combined into a single Corrective Action Management Unit (CAMU) based upon their close proximity and shared secondary containment.

2. A total analysis of coke should be provided to assess the level of hazardous constituents present. This analysis should include the parameters in Table 1.

G. A ground water investigation should be conducted for the facility to determine if hazardous constituents from the facility have impacted the ground water.

Table 1
List of Parameters for Coke Analysis

- Acenaphthalene
- Arsenic
- Barium
- Benzene
- Cadmium
- Chromium
- Chrysene
- Cresol (total)
- Ethylbenzene
- Fluoranthene
- Indeno(1,2,3-cd)pyrene
- Lead
- Mercury
- Naphthalene
- Phenanthrene
- Phenol
- Pyridine
- Silver
- Toluene
- Xylene

Table 2
Summary of Suggested Further Action for SWMUs

SWMU	NAME	SUGGESTED FURTHER ACTION
1	Oil Pump Spray Storage Area	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
2	Coal Fines Recovery Basins	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
3	Primary and Secondary Cooling Tower, and Ammonia Wash Tower	An RFI should be conducted on a Corrective Action Management Unit (CAMU) consisting of SWMUs 3, 4, and 10 based upon moderate to high release potentials to soil/ground water, and surface water for these units.
4	Flushing Liquor Tanks	An RFI should be conducted on a CAMU consisting of SWMUs 3, 4, and 10 based upon moderate to high release potentials to soil/ground water, and surface water for these units.
5	#1 and #2 Liquor Storage Tanks	An RFI should be conducted for this unit based upon the high release potential to soil/ground water.
6	#3 Liquor Storage Tank	An RFI should be conducted for this unit based upon the high release potential to soil/ground water.
7	#1 Disposal Well	No further action is suggested since the release potential for this unit is low.
8	#2 Disposal Well	No further action is suggested since the release potential for this unit is low.
9	#3 Disposal Well	No further action is suggested since the release potential for this unit is low.
10	Tar Decanter Area	An RFI should be conducted on a CAMU consisting of SWMUs 3, 4, and 10 based upon moderate to high release potentials to soil/ground water, and surface water for these units.

SWMU	NAME	SUGGESTED FURTHER ACTION
11	#10, #12, and #13 Tar Storage Tanks	An RFI is suggested for this unit based upon the high release potential to soil/ground water, and moderate release potential to surface water.
12	Tar Pumping Trench	An RFI is suggested for this unit based upon the high release potential to soil/ground water, and moderate release potential to surface water.
13	Containment Area by Tar Pump House	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
14	Coal Tar Recycling Area	An RFI should be conducted for this unit based upon the moderate release potential to soil/ground water, and high release potential to surface water.
15	Diesel Fuel Tank	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
16	Tank Near Pre-Heat Unit	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
17	Coke Over Gas Condensate Sumps	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
18	Flare Stack	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
19	Round Containment	An RFI is suggested for this unit based upon the high release potential to soil/ground water, and moderate release potential to surface water.
20	Drum Storage Area	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.

SWMU	NAME	SUGGESTED FURTHER ACTION
21	Past Secondary Containment Area	An RFI should be conducted for this unit based upon the moderate to high release potential to soil/ground water, and the unknown nature of this unit.

Table 3
SUMMARY OF SUGGESTED FURTHER ACTION FOR AOCs

AOC	NAME	SUGGESTED FURTHER ACTION
1	Coal Unloading/ Storage Area	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
2	Oil Spray Area of Conveyor belt	An RFI should be conducted for this unit based upon the high release potential to soil/ground water, and surface water.
3	Pre-Heat Coal Fines Recovery Basin	An RFI should be conducted for this unit based upon the moderate release potential to soil/ground water.
4	Quench Tower	An RFI should be conducted for this unit based upon the moderate release potential to soil/ground water, and surface water.
5	Quench Water Recycle Sump	An RFI should be conducted for this unit based upon the moderate release potential to soil/ground water, and surface water.
6	Septic Tank	No further action is suggested if it can be verified that this unit was only used as aseptic tank.
7	Outfall 001	An RFI should be conducted for this unit based upon the moderate release potential to surface water.
8	Outfall 002 (Parking Lot Drain)	An RFI should be conducted for this unit based upon the moderate release potential to surface water.
9	Half of Tanker Car	No further action suggested since the facility is going to remove this unit.
10	Former Pile Area	An RFI should be conducted for this area unless analyses indicate that there are only low levels of hazardous constituents present in coke.
11	Vehicle Maintenance Building	An RFI should be conducted for this area based upon the high release potential to surface water.

III. Introduction

This report presents the results of an RFA conducted under the RCRA corrective action authorities of the Hazardous and Solid Waste Amendments (HSWA), and as a requirement of the Underground Injection Control Permit for the Detroit Coke Corporation which is located at 7819 West Jefferson Avenue in Detroit, Michigan. The U.S. EPA identification number for the facility is MID 099 114 704.

The RCRA corrective action authorities established under HSWA are:

3004(u) - corrective action for continuing releases
3004(v) - corrective action beyond the facility boundary
3008(h) - corrective action at interim status facilities

The primary objective of the RCRA corrective action program is the remediation of releases of hazardous waste or hazardous constituents which pose a threat to human health or the environment. The program is a four-phase process consisting of a RCRA Facility Assessment (RFA), a RCRA Facility Investigation (RFI), a Corrective Measures Study (CMS), and Corrective Measures Implementation (CMI).

The RFA is divided into four phases which include a File Search (FS), a Preliminary Review (PR), a Visual Site Inspection (VSI), and a Sampling Visit (SV), if applicable.

The RFA, the subject of this report, consists of an FS, PR, and VSI. The FS and PR were conducted during June and July of 1992. U.S. Environmental Protection Agency (U.S. EPA) representatives (Allen Melcer and Mr. Greg Rudloff) visited the facility on July 15-16, 1992, to conduct a VSI. Detroit Coke representatives present during the VSI included Mr. Carl Curry and Mr. Paul Choinskie. A copy of the VSI notification letter can be found in Appendix D. Field Notes collected during the VSI can be found in Appendix B. Copies of the photographs taken during the VSI can be found in Appendix C.

The objectives of the RFA were as follows:

1. Obtain a thorough understanding of the past and present process and waste management operations at the Detroit Coke facility in Detroit, Michigan.

2. Identify all of the SWMUs and AOCs which are located at the facility.

3. Use information obtained from the FS, PR, and VSI to assess the potential for release of hazardous

waste or hazardous constituents from each SWMU and AOC.

4. For each SWMU and AOC, determine if further investigations or interim measures are necessary to protect human health and the environment from a release.

The information utilized in preparing this report was compiled from the U.S. EPA's facility files, the MDNR's facility files, information submitted to the WMD by the company, a Preliminary RCRA Facility Assessment conducted by the facility, and information gathered during the VSI. Facility representatives were contacted at various stages of the RFA to obtain and clarify site information.

IV. General Description

A. Facility Description

Detroit Coke Corporation is located at 7819 Jefferson Avenue in Detroit, Michigan. Figures 1 and 2 contain a general location map and facility map, respectively. The Detroit Coke Corporation facility is an approximately 60 acre site at the north side of the junction of the Rouge River and the Detroit River, and 5 miles from downtown Detroit.

The facility is located approximately 1,000 feet southeast of a residential neighborhood; approximately .5 miles southeast of McMillan School; .5 miles southeast of Good Hope School; approximately .5 miles south of Cary School; 1.25 miles west of Prince Road Park, and about 1.75 miles west of a hospital near Sandwich, Ontario. Prevailing winds in the area are primarily from the west.

Operations began at the facility in the early 1910's when the first battery of coke ovens was constructed. Three additional coke batteries were constructed at the site including the #4 battery which was constructed in 1968. The first three coke batteries were torn down prior to 1980. Detroit Coke has operated the #4 battery from January 1980 until September 1991 when operations ceased and the plant was closed. Prior to January 1980, Allied Chemical Corporation operated the plant.

The Detroit Coke Corporation is a coking facility which also produces coal tar and coke oven gas as byproducts. The plant consists of one coke oven battery containing

70 ovens of the Wilputte hairpin flue design. Each oven is 47 feet long, 16.5 feet high, with an average width of 10 inches, and capable of coking 27.5 tons of wet coal. The coke is supplied to foundries for use as a fuel in cupolas. The coal tar is sold as product to a local coal tar refiner; and the coke oven gas is either used as a fuel on site, sold to a customer, or flared.

B. Process Description

1. Coking Process

Coal is received primarily by rail, stored and then moved to a receiving hopper and conveyed from there to one of seven mixing bins. Measured volumes of three grades of coal are carefully blended and then pulverized in one of two hammer mills to a fineness of 90% through a 1/8 inch screen. The pulverized coal is conveyed to the battery coal bins having capacity for approximately 1,250 tons of coal. Wet coal is charged to the ovens by a larry car on top of the battery.

The charged coal remains in the oven 25-30 hours at 1,800°F - 2,100°F. The coking process is a distillation process in the absence of air. As the volatile matter is driven off, the coal becomes plastic at temperatures of 600°F - 1,000°F and, as the mass resolidifies between 1,000°F - 1,500°F, coke is formed. The process is one that moves progressively from the wall to the center of the oven. When the two plastic zones meet in the center of the oven, the coking process is complete. During the first stage of the coking process, moisture is driven off, followed by condensibles, and relatively high BTU coal gas constituents. The coke oven gas generated is cooled by use of water sprays in the By-Product area. This contact cooling water is reused after it has been cooled by a non-contact cooling stream. The non-contact cooling water is discharged to the Detroit River. The contact cooling water goes through three tanks before going through a series of one micron filter bags. This water is then pumped by one of four pumps into the underground injection wells. The volume of water injected essentially approximates the amount of moisture driven off the coal during the first stage of the coking process.

2. By-Products Processes

The 70 ovens would be expected to produce approximately 21,000,000 cubic feet of coke oven gas per day, at a

coking rate of 1 inch per hour. Naphthalene is not extracted at the facility, nor is light oil or sodium phenolate recovered.

The coke oven gas is cooled in a primary and secondary, closed vessel, direct contact, cooler. A three stage centrifugal turbine driven exhauster pulls the gas away from the battery through the coolers and sends it through an ammonia scrubber. The gas then goes through electrostatic precipitators to the underfiring system of the battery, to boilers, is sold to a customer, and/or is flared.

Weak aqueous ammonia liquor, generated during the coking process, flows through the suction gas main to a downcomer prior to the primary cooler, along with the coke oven gas and coal tar. From here the liquor goes back to the flushing liquor tanks for contact cooling sprays on the battery, or to the decanters, along with the tar. Non-contact cooling water from the Detroit River removes the heat from the circulating liquor in spiral heat exchangers and is then discharged back to the Detroit River. The excess weak ammonia liquor then goes to the #1, #2, and #3 weak liquor storage tanks in series. The effluent from these tanks is then disposed of in the three underground injection wells, or recycled back to the battery for cooling in the liquor sprays. The primary constituents associated with the weak liquor are: cyanides, phenolics, ammonia, naphthalene, pyridine, and benzene. These constituents have been identified in the wastewaters that are disposed of in the underground injection wells.

Coal tar from the coking process flows through the suction main to a downcomer prior to the primary cooler and goes into two flushing liquor decanters. In these decanters, the tar is separated from the flushing liquor by gravity and is decanted off. The tar is then transferred to the #3 tar decanter for further decantation. The tar is then transferred to the #10 tar storage tank and sold as product. The decanter tank tar sludge (K087) that is generated during the process, is recycled back to the coke ovens.

C. Waste Management Operations

1. Hazardous Waste

a. Decanter Tank Tar Sludge (K087)

Decanter tank tar sludge generated during the coking process is mixed with coal on a concrete

mixing pad, located adjacent to the coal fines recovery basin, and recycled back to the coke ovens.

b. Weak Ammonia Liquor

Weak ammonia liquor generated during the coking process is disposed of in three on-site underground injection wells. Constituents identified in the weak ammonia liquor are: cyanides, phenolics, ammonia, naphthalene, pyridine, and benzene.

Table 4, which was taken from driller's logs of the #3 injection well, shows the subsurface geology at the site. Injection takes place into the Eau Clare and Mt. Simon sandstones due to their uniformity, moderate permeability, porosity, lack of complex structure, and unsuitability for use as a source of drinking water due to high total dissolved solids content. The injection interval is overlain by thick units of limestone, dolomite, shale, anhydrite, and salt which act to confine the injected wastes and prevent vertical migration. The lowermost underground source of drinking water in the area is believed to be the Sylvanian Sandstone, which is encountered at a depth of 480 feet and is approximately 40 feet thick.

D. Regulatory History

1. RCRA/Act 64

Detroit Coke is deemed to have a RCRA permit under Title 40 Code of Federal Regulations (40 CFR) 270.60(b) since Detroit Coke has a permit for underground injection under part 144 or 145.

2. UIC

Detroit Coke produces waste ammonia liquor as a by-product of the coking of coal. The wastestream has been disposed of into three on-site Class I hazardous waste injection wells completed in the Trempealeau, Eau Claire and Mt. Simon Formations.

The Detroit Coke disposal well #1, Underground Injection Control (UIC) permit #MI-163-1W-0003, was drilled and completed in June of 1969. Waste disposal well #2 (UIC permit #MI-163-1W-0004) was drilled in January of 1976. In September of 1978 a third well,

Table 4
Formation Tops, Detroit Coke Corporation
Waste Disposal Well No. 3

GROUP	FORMATION TOP	MEMBER	DEPTH
	Glacial Drift		0′
	Dundee Limestone		105′
Detroit River	Detroit River Dolomite		178′
Detroit River	Sylvania Sandstone		480′
	Bois Blanc		520′
Bass Islands	Undifferentiated		608′
Salina	Undifferentiated		848′
Niagara	Niagaran		1847′
Cataract	Cabot Head Shale		2174′
Richmond	Undifferentiated		2299′
Trenton & Black River	Undifferentiated		2299′
Lake Superior	Munising	Eau Claire	3771′
		Mt. Simon	4045′
	Pre-Cambrian Granite		4125′

waste disposal well #3 (UIC permit #MI-163-1W-0005) was drilled. All three wells were repermitted in 1991 and are currently disposing of waste ammonia liquor and rainwater that collects on site.

The presence of Benzene and Pyridine in the waste ammonia liquor causes the waste to be classified as hazardous by virtue of the characteristic of toxicity. The injection rates for the wells ranges from 28,994 gallons per day (gpd) to 34,520 gpd into the injection zone at depths between 3286 and 4231 feet.

The wells most recently passed mechanical integrity tests in September of 1992.

3. Surface Water (NPDES)

Detroit Coke has two NPDES discharge outfalls under permit number MI 000 4430. The location of the two outfalls can be seen on Figure 2. Each outfall is described below:

- Outfall 001 - Non-contact cooling water;
- Outfall 002 - Parking lot drain.

4. Air Permits

Detroit Coke had 5 permits for air releases at the time of its closure. These permits became inactive after the facility ceased operations. Each permit is described below:

- C-9025 - Bag house dust collector for pushing emissions;
- C-9171 - Bag house dust collector for coke battery #4;
- APC-5-23778 - Coke crusher;
- APC-5-23779 - Tar storage tanks #12 and #13;
- APC-5-23780 - Tar storage tank #10 equipped with carbon canister.

E. Environmental Setting

1. Flood Plain and Surface Waters

Detroit Coke is located in the Rouge River Basin which encompasses approximately 467 square miles. There are

numerous lakes and rivers throughout this region including Lake Huron, Lake Erie, Lake St. Clair, the Detroit River, the River Rouge, the Clinton River, and the Huron River.

Detroit Coke is located at the confluence of the Detroit River and the Rouge River. The facility appears to be within the floodplain of both rivers.

Run-off from Detroit Coke enters either the Detroit River or Rouge River via surface flow, or by an outfall in the case of runoff from the parking lot.

2. Soils and Geology

The site is located within a glacial lake plain once occupied by ancestral Lake Erie. The surficial geology of the site consists of fill material underlain by approximately 100 feet of glacial deposits including alluvial deposits, lacustrine and deltaic sand, lacustrine clay, and lacustrine and deltaic loam. These sediments were deposited during the Wisconsinan stage of the Pleistocene glaciation, and are related to the advance and withdrawal of the Erie-Huron ice lobe.

Bedrock formations immediately underlying the glacial deposits consist of approximately 4,000 feet of sedimentary rocks dipping northwest at approximately 30 feet/mile. Table 4, which was taken from driller's logs of the #3 injection well shows the subsurface geology of the site.

3. Groundwater

The uppermost permeable unit at the site is expected to be the fill material with an unknown maximum thickness. This unit is not expected to be hydraulically continuous and may not behave as a single unit. Beneath the fill, alluvial deposits consisting of sand, gravel, silt, and clay; along with glacial lake plain deposits of clay and varying amounts of coarser material are expected. Ground water in varying quantities is believed to be available within these units. The regional ground water flow within these units is southeast toward the Detroit River.

Public drinking water is primarily obtained from surface water sources and supplied by the Detroit Metro Water Department. The surface water sources for the water supply include Lake St. Clair, Detroit River, Clinton River, River Rouge, Huron River, and inland lakes. There are some private wells in the area that

obtain water from the glacial deposits, the Berea Sandstone, and the Sylvania Sandstone.

It has been reported that a deeper glacial aquifer in the area contains hydrogen sulfide gas. Concentrations are high enough that two people were killed in the 1940's from hydrogen sulfide that concentrated in basements where wells existed.

4. Aesthetics

Detroit Coke is located in a heavily industrialized area at the confluence of the Detroit River and the Rouge River. Both rivers are used to transport bulk materials by barge, and are also used for recreational boating and fishing.

5. Air/Soil/Surface Water/Groundwater Contamination

a. Air

The Oakwood Environmental Concern Association has stated that the facility has been in a state of noncompliance on air pollution and fugitive emissions in the past. There have also been reports of complaints on air emissions from residents living near the plant.

The 1990 Toxic Release Inventory for Detroit Coke reported emissions totaling 38.9 tons per year. Among the emissions were benzene, phenol, naphthalene, dibenzofuran, anthracene, propylene, ethylene, ammonia, and cyanide.

b. Soil

No soil sampling has taken place at Detroit Coke at this time.

c. Surface Water

On November 9, 1973, the facility experienced a spill when an indeterminate amount (less than 100 gallons) of oil and tar residue was washed from an abandoned sewer line by a ruptured fire main. The sewer system subsequently was pumped out and plugged with concrete. All connections between the abandoned sewer system and the operating sewer system have been eliminated.

On May 13, 1974, the facility experienced a spill (less than 100 gallons) caused by corrosion of the

#6 spiral heat exchanger. The heat exchanger was isolated from the system and repaired. Subsequently, the facility replaced all heat exchangers and conducted regular inspections to minimize the possibility of future failure of the spiral heat exchangers.

On December 15, 1990, the facility experienced a spill of an indeterminate amount of an oily substance which produced a sheen on the Rouge River. A sorbent boom was deployed around the outfall, and heavy pockets of the material were removed. It is believed that the source of the sheen was the parking lot at Detroit Coke.

d. Ground Water

It has been reported that some ground water contamination in the past has resulted from improper solution mining by early brine well operators. Also, there is at least one Act 307 site (Yellow Freight) in the vicinity of Detroit Coke with contamination of ground water by fuel oil and diesel fuel. At the Detroit Coke Facility, no ground water sampling has taken place at this time.

V. Description of Solid Waste Management Units (SWMU's)

This section presents detailed descriptions and release assessments for each SWMU identified during the PR and VSI. A SWMU includes any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for managing solid waste, and any area at a RCRA facility at which solid wastes or waste constituents have been released routinely and systematically. The descriptions encompass unit functional and physical descriptions, dates of operation, wastes managed, and release controls. The release assessments encompass a history of releases and conclusions regarding the release potential to the environment. For the purposes of the release assessments provided in this section, the term "none" indicates that no documentation of a release was found during the PR nor did the company have any recollection of a release. In some cases, no formal record of a release was found, however, evidence of a release was observed during the VSI. Such evidence is noted in the "Evidence of Releases" category. Table 5 provides a list of the SWMUs. Figure 2 is a map which shows the location of all of the SWMUs. Copies of the photographs of the SWMUs can be found in Appendix C. A summary of the recommendations and conclusions regarding the SWMUs is provided in section II.

Table 5

List of SWMUs

Unit Number	Unit Name
SWMU 1	Oil Pump Spray Storage Area
SWMU 2	Coal Fines Recovery Basins
SWMU 3	Primary and Secondary Cooling Tower, and Ammonia Wash Tower
SWMU 4	Flushing Liquor Tanks
SWMU 5	#1 and #2 Liquor Storage Tanks
SWMU 6	#3 Liquor Storage Tank
SWMU 7	#1 Disposal Well
SWMU 8	#2 Disposal Well
SWMU 9	#3 Disposal Well
SWMU 10	Tar Decanter Area
SWMU 11	#10, #12, and #13 Tar Storage Tanks
SWMU 12	Tar Pumping Trench
SWMU 13	Containment Area by Tar Pump House
SWMU 14	Coal Tar Recycling Area
SWMU 15	Diesel Fuel Tank
SWMU 16	Tank Near Pre-Heat Unit
SWMU 17	Coke Oven Gas Condensate Sumps
SWMU 18	Flare Stack
SWMU 19	Round Containment
SWMU 20	Drum Storage Area
SWMU 21	Past Secondary Containment Area

SWMU Number 1: (Photos 1, 2, 3, 4)

Unit Name: Oil Pump Spray Storage Area

Unit Description: This unit consists of a secondary containment structure which formerly contained a 5,000 gallon oil storage tank. The oil was added to the coal as a bulk density control before being charged to the ovens. Prior to the present unit, an underground storage tank was at this location. The underground storage tank was filled with sand after being emptied.

Release Controls: This unit has a concrete secondary containment structure with walls about 4 feet high. Some hairline cracks were observed in the containment walls. The containment has several feet of rain water in it.

Wastes Managed: Oil, diesel fuel.

Dates of Operation: Mid 1980's - 1992.

History of Releases: It was stated that spillage may have occurred around the perimeter of the dike, near the loading area for the tank.

Evidence of Releases: Rainwater within the containment structure had an oily sheen. Balls of what appeared to be tar approximately 1/4 inches in diameter were observed floating in the water. Also, heavy staining of the concrete walls was observed on both interior and exterior surfaces. Triangular areas of staining were seen coming from cracks in the concrete walls. An oily smell could be detected in the area of this unit. No samples were taken in this area when the underground storage tank was decommissioned.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the former underground storage tank, cracks and staining of the containment, possible spillage, and odor.

Surface Water: The release potential to surface water is high due to cracks in the containment, and possible spillage.

Air: The release potential to air is moderate due to the low volatility of diesel fuel.

SWMU Number 2: (Photos 5, 6)

Unit Name: Coal Fines Recovery Basins

Unit Description: This unit consists of two approximately 15x40 feet settling basins about 16-18 feet deep. Coal was recovered from water coming from the coal pre-heat unit. The basins have several feet of rain water in them, and are currently covered with plastic to prevent additional water accumulation. Water is also in a basin beneath where the pumps were mounted for this unit.

Release Controls: The basins are constructed of concrete.

Wastes Managed: Coal, coal tar.

Dates of Operation: 1975 - 1991.

History of Releases: None.

Evidence of Releases: The basin floors are covered with fine coal, and coal tar was discovered in the west basin. An oily sheen could be seen on the water in the basins. The concrete is heavily stained, and there is much fine coal surrounding the unit.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the poor condition of the concrete, heavy staining, coal tar, and sheen observed on the water.

Surface Water: The release potential to surface water is high due to the potential for material to overflow from the tanks.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 3: (Photos 7, 8)

Unit Name: Primary and Secondary Cooling Tower, and Ammonia Wash Tower

Unit Description: This unit consists of a primary cooling tower tank, a secondary cooling tower tank, and an ammonia wash tower tank. Coke oven gas passes through these units as it is cooled and ammonia is removed. Some rust was observed on the tanks. Tar bottoms were seen in the base of the primary cooling tower tank which was open.

Release Controls: The unit is contained by a concrete pad with a 12 inch curb. Three electrostatic precipitators are also within this containment. The containment was filled with rain water.

Wastes Managed: Coke oven gas, weak ammonia liquor, coal tar.

Dates of Operation: 1968 - 1991.

History of Releases: It was stated that releases may have taken place at some of the flanges.

Evidence of Releases: The tanks, and containment are heavily stained.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is moderate due to the low volume of the secondary containment, and the observed staining.

Surface Water: The release potential to surface water is moderate due to the low volume of the secondary containment, and the observed staining.

Air: The release potential to the air is moderate due to the apparent leaks at flanges.

SWMU Number 4 (Photo 9)

Unit Name: Flushing Liquor Tanks

Unit Description: This unit consists two horizontal 6,000 gallon welded steel tanks on concrete supports used to hold weak ammonia liquor which was used for the cooling of coke oven gas. The tanks have been emptied, but may contain tar bottoms. Much rust was observed on the tanks.

Release Controls: Secondary containment consists of a concrete floor with a 12 inch curb. The curb was observed to be broken in several areas.

Wastes Managed: Weak ammonia liquor.

Dates of Operation: 1968 - 1991.

History of Releases: None.

Evidence of Releases: Staining was observed on the concrete containment, and the concrete supports for the tanks.

Conclusions: Soil/Surface Water: The release potential to soil/ground water is high due to the low volume of the secondary containment, broken curbing, appearance of the tank, and observed staining.

Surface Water: The release potential to ground water is moderate due to the low volume of the secondary containment, broken curbing, and observed staining.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 5: (Photos 10, 11)

Unit Name: #1 and #2 Liquor Storage Tanks

Unit Description: This unit consists of two 180,000 gallon welded steel tanks used to hold weak ammonia liquor. The tanks were observed to be badly rusted/corroded. The #2 tank ruptured recently when it was filled with water. Rainwater that collects in the containment area drains to the rectangular containment that is part of Unit 19.

Release Controls: Secondary containment is provided by a concrete pad with concrete walls approximately 5 feet high. The concrete is badly corroded in several areas. This containment area did not have rain water in it which may indicate leakage.

Wastes Managed: Weak ammonia liquor.

Dates of Operation: 1968 - 1991.

History of Releases: None

Evidence of Releases: Staining can be seen on both the tanks and the containment structure including a bathtub ring in the interior of the containment. The water that was ponded in the containment had an oily sheen on the surface. Also, the containment had less water in it than other containment structures which may indicate leakage.

Conclusions: <u>Soil/Ground Water</u>: The release potential to soil/ground water is high due to the poor integrity of the tanks, poor condition of the concrete containment, and observed staining/odor.

<u>Surface Water</u>: The release potential to surface water is low due to the poor integrity of the tanks and containment, and observed staining.

<u>Air</u>: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 6: (Photo 12)

Unit Name: #3 Liquor Storage Tank

Unit Description: This unit consists of a 180,000 gallon welded steel tank used to store weak ammonia liquor prior to disposal by underground injection. Currently the tank contains water and possibly a tar bottom. The tank appeared corroded in places especially at the base.

Release Controls: The unit has concrete secondary containment with walls about 4-5 feet high. The concrete floor was badly cracked and corroded in several areas.

Wastes Managed: Weak ammonia liquor

Dates of Operation: 1968 - 1991.

History of Releases: None

Evidence of Releases: Staining could be seen on the tank and concrete, and an oily odor was present. There was a bathtub ring around the base of the tank. The containment structure was drier than most at the facility. This may indicate infiltration through the floor, or drainage to another area.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the poor integrity of the secondary containment floor, and the observed staining/odor.

Surface Water: The release potential to surface water is low since the walls of the containment appeared to be intact.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 7: (Photo 13)

Unit Name: #1 Disposal Well

Unit Description: This unit is an underground injection well for the disposal of weak ammonia liquor. This well was unusable for a short time due to salt formation obstructing the tubing. The tubing pressure was 140 psi, and the annulus pressure was 325 psi at the time of the inspection. The wellhead has been recently painted, and the area around the well consists of clean sand. This unit is tested annually for mechanical integrity.

Release Controls: Release controls consist of maintaining a higher annulus pressure than injection pressure for the well.

Wastes Managed: Weak ammonia liquor.

Dates of Operation: 1969 - 1991.

History of Releases: None.

Evidence of Releases: None.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is low due to the requirements of the underground injection permit.

Surface Water: The release potential to surface water is low due to the requirements of the underground injection permit.

Air: The release potential to air is low due to the nature of underground injection.

SWMU Number 8: (Photo 14)

Unit Name: #2 Disposal Well

Unit Description: This unit is an underground injection well used for the disposal of weak ammonia liquor. The wellhead has been recently painted, and the area around the well is covered with clean sand. The tubing pressure was 10 psi, and the annulus pressure was 300 psi at the time of the inspection. The low injection pressure is due to the well being killed when a wire line broke during a test in 1991. This well has been shut-in since 1991. This unit is tested annually for mechanical integrity.

Release Controls: Release controls consist of maintaining a higher annulus pressure than injection pressure for the well.

Wastes Managed: Weak ammonia liquor.

Dates of Operation: 1974 - present.

History of Releases: None.

Evidence of Releases: None.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is low due to the requirements of the underground injection permit.

Surface Water: The release potential to surface water is low due to the requirements of the underground injection permit.

Air: The release potential to air is low due to the nature of underground injection.

SWMU Number 9: (Photo 15)

Unit Name: #3 Disposal Well

Unit Description: This unit is an underground injection well used for the disposal of weak ammonia liquor. The wellhead has recently been painted, and the area surrounding the well is covered with clean sand. The tubing pressure was 125 psi, and the annulus pressure was 320 psi at the time of the inspection. This well has been shut-in since 1991. This unit is tested annually for mechanical integrity.

Release Controls: Release controls consist of maintaining a higher annulus pressure than injection pressure for the well.

Wastes Managed: Weak ammonia liquor.

Dates of Operation: 1978 - present.

History of Releases: None.

Evidence of Releases: None.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is low due to the requirements of the underground injection permit.

Surface Water: The release potential to surface water is low due to the requirements of the underground injection permit.

Air: The release potential to air is low due to the nature of underground injection.

SWMU Number 10 (Photo 16)

Unit Name: Tar Decanter Area

Unit Description: This unit consists of a concrete platform approximately 4 feet high which held 3 steel tar decanter tanks. Each tank had a capacity of about 4,000-5,000 gallons. The tanks were removed in December, 1991. In these units, off-spec coal tar was separated from weak ammonia liquor through decantation. The coal tar was then placed in a mobile container and recycled back to the coke ovens.

Release Controls: The concrete pad in front of the tar decanter area drains to a sump, which directs liquid to the liquor storage tanks. At the time of the inspection, much of the pad was flooded with several inches of rain water. The concrete pad does not have a curb.

Wastes Managed: Weak ammonia liquor, coal tar.

Dates of Operation: 1968 - 1991.

History of Releases: None

Evidence of Releases: Staining was observed on the concrete base where the decanters were.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is moderate due to containment consisting of only a concrete pad, and observed staining.

Surface Water: The release potential to surface water is high due to the lack of curbs on the secondary containment, and the observed staining.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 11: (Photos 17, 18)

Unit Name: #10, #12, and #13 Tar Storage Tanks

Unit Description: This unit consists of three tanks used to store coal tar prior to sale as product. The tanks are of riveted steel construction and are badly rusted. The #12 tank has a hole cut in it approximately 12 x 6 feet. The #12 and #13 tanks are empty, and the #10 tank may have some water and tar in it.

Release Controls: Secondary containment consists of concrete walls ranging from 2-4 feet high. It is unknown if the floor of the containment is concrete. In the past, liquid was routed from the containment to the byproducts area where it was disposed of in the injection wells. Currently the containment is filled with rain water and tar with about 12-18 inches of freeboard left. Some piles of coke were observed forming islands within the containment.

Wastes Managed: Coal tar.

Dates of Operation:
#10 tank 1960's - 1991
#12 tank ? - 1980's
#13 tank ? - 1980's

History of Releases: There is no record of releases that have resulted in the large quantity of coal tar in the containment area. It was stated that the tar had been there as long as could be remembered.

Evidence of Releases: Beneath the surface of the water in the containment is an estimated 100,000 gallons of coal tar. Also, some staining was observed on the outside of the containment.

Conclusions: <u>Soil/Ground Water</u>: The release potential to soil/ground water is high due to tar leakage, the rusted appearance of the tanks, and the lack of information on the material of the floor of the containment.

<u>Surface Water</u>: The release potential to surface water is moderate due to the lack of freeboard in the secondary containment structure, and observed staining.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 12: (Photos 19, 20)

Unit Name: Tar Pumping Trench

Unit Description: This unit consists of a trench that runs from the tar pump house to Allied Signal's tar processing plant. The trench contains piping which conveyed coal tar from the facility to Allied Signal. The trench is mainly at the surface, however at one point it goes underground for a distance. The trench is covered with steel plates, but many were missing or damaged.

Release Controls: The trench has a concrete floor and walls. Rain water that collected in the trench was pumped to the by-products area and then pumped down the disposal wells. Currently the trench is filled to within about a foot of the top with rain water.

Wastes Managed: Coal tar.

Dates of Operation: ? - 1991.

History of Releases: None.

Evidence of Releases: Much staining was observed on the pump house wall, ancillary piping by the pump house, and the concrete of the trench walls. An oily sheen could be seen on the water in the trench in places, and what appeared to be blobs of tar were observed floating. The water in the trench has been tested for TC and came out nonhazardous, however there may be coal tar underneath the water.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the observed staining, and water observed in the trench.

Surface Water: The release potential to surface water is moderate due to the observed staining, and the water observed within the trench.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 13: (Photo 21)

Unit Name: Containment Area by Tar Pump House

Unit Description: This unit consists of a shallow concrete sump behind the tar pump house. The sump is about 12x12 feet with a metal grating covering it. The function of this sump is not known. Currently it is filled with rain water.

Release Controls: The sump appears to be of concrete construction.

Wastes Managed: Coal tar.

Dates of Operation: ? - 1991.

History of Releases: None

Evidence of Releases: The concrete of the sump and the metal grating are heavily stained with tar, and a pile of tar is located at one corner. Rain water has overflowed the sump and forms a pool over to the adjacent wall of the containment for the tar storage tanks. Also, a sheen could be seen on the water that filled the sump.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the overflowing of the containment, the observed staining, and the sheen seen on the water.

Surface Water: The release potential to surface water is high due to the overflowing of the containment, the observed staining, and the sheen seen on the water.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 14: (Photo 22)

Area Name: Coal Tar Recycling Area

Area Description: This unit consists of an approximately 40x40 foot concrete pad used for recycling coal tar. Recycling was done by mixing decanter tank tar sludge with coal, and charging this mixture back into the coke battery. Mixing of the material was performed by a front-end loader.

Release Controls: A 12 inch concrete curb surrounds the pad. The curb was observed to be in poor condition and broken in several places.

Wastes Managed: Decanter tank tar sludge (K087), coal.

Dates of Operation: 1975 - 1991.

History of Releases: None.

Evidence of Releases: The surface of the concrete is badly stained. A sample of tar was taken from the pad and tested as non-hazardous for TC.

Conclusions: <u>Soil/Ground Water:</u> The release potential to soil/ground water is moderate due to the possibility of runoff escaping from the pad onto the soil because of the poor condition of the curb.

<u>Surface Water:</u> The release potential to surface water is high due to the poor condition of the curb.

<u>Air:</u> The release potential to air is low due to the low volatility of the wastes.

SWMU Number 15 (Photo 23)

Unit Name: Diesel Fuel Tank

Unit Description: This unit consists of a 2,000 gallon horizontal welded steel tank used for storing diesel fuel. Rust was observed over large areas of the tank.

Release Controls: Release controls consist of a 5 foot concrete wall mainly below grade. It is not known if the containment area is floored with concrete. The bottom of the structure is covered by coal and coke. An outfall from the containment area was seen, however it is not known where it leads to. Some rain water had ponded in the containment area.

Wastes Managed: Diesel Fuel.

Dates of Operation: 1970's - 1991.

History of Releases: None.

Evidence of Releases: A black bathtub ring about 2-3 feet high was observed on the interior of the containment structure. Some sheen was seen on the ponded water. An area of the wall appeared to be the site of a "washover" of material, and the adjacent soil was stained.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the possible "washover", unknown nature of the bottom of the containment, and observed staining/sheen.

Surface Water: The release potential to surface water is high due to the possible "washover".

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 16: (Photo 24)

Unit Name: Tank Near Pre-Heat Unit

Unit Description: This unit consists of a tank of unknown volume. It is believed that it may have held fuel oil. The tank appears to be insulated.

Release Controls: Secondary containment is provided by concrete walls approximately 5 feet high. It is not known if the unit has a concrete floor. The floor is covered with gravel, coke, and coal. There appears to be an apron of tar/asphalt around the base of the tank. An outflow pipe of unknown use was observed coming out of the containment.

Wastes Managed: Fuel oil?

Dates of Operation: 1979 - ?

History of Releases: None.

Evidence of Releases: Heavy staining was observed on the sides of the tank, and staining was also seen on the concrete containment walls. The appearance of the apron around the tank suggest that it may be the product of tar flows from the tank.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the observed staining, and unknown nature of the floor of the containment.

Surface Water: The release potential to surface water is high due to the observed staining inside the containment, and unknown outflow pipe from the containment.

Air: The release potential to air is low due to the low volatility of the wastes.

SWMU Number 17 (Photo 25)

Unit Name: Coke Oven Gas Condensate Sumps

Unit Description: This unit consists of 13 condensate sumps along the coke oven gas lines. These sumps accumulate weak ammonia liquor that condenses out the COG stream. The collected weak ammonia liquor is directed back to the tar decanters. The sump that was inspected was a tank approximately 3 feet in diameter and 3 feet high. It appeared to be badly corroded.

Release Controls: None.

Wastes Managed: Weak ammonia liquor.

Dates of Operation: 1968 - 1991.

History of Releases: None.

Evidence of Releases: The sump was badly stained/discolored. There appeared to be tar on parts of the sump.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the lack of secondary containment, and corroded/stained nature of the sump.

Surface Water: The release potential to surface water is high due to the lack of secondary containment, and corroded/stained condition of the sump.

Air: The release potential to air is moderate due to the possibility of volatiles in the wastes.

SWMU Number 18 (Photos 26, 27)

Unit Name: Flare Stack

Unit Description: This unit consists of a stack used to flare excess coke oven gas. The stack is of welded steel construction and appeared rusty.

Release Controls: None.

Wastes Managed: Coke oven gas.

Dates of Operation: 1968 - 1991.

History of Releases: None.

Evidence of Releases: The soil around the unit appeared stained and a strong oily smell was present. Also, there appeared to be some stains on the stack from drippage.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the stained soil around the unit, and a strong oily odor.

Surface Water: The release potential to surface water is high due to the stained soil around the unit, and a strong oily odor.

Air: The release potential to air is moderate due to the nature of the flare stack.

SWMU Number 19 (Photos 28, 29)

Unit Name: Round Containment

Unit Description: This unit consists of a round secondary containment structure that held an unknown tank in the past. There is a second containment structure connected to the rear of the circular structure with a passage through the wall between them. The circular containment is approximately 30 feet in diameter and about 12 feet deep. Both areas are currently filled with rain water.

Release Controls: The unit itself is a former secondary containment structure.

Wastes Managed: Coal tar, ?

Dates of Operation: ?

History of Releases: None.

Evidence of Releases: The containment is filled with water, coal tar, and solids. The rain water tests TC toxic for benzene. The concrete walls are heavily stained, and a thick oily sheen was present on the water. Also, a very strong tar/oily smell was present.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the tar and other material in the containment, the observed staining, and unknown nature of the unit.

Surface Water: The release potential to surface water is moderate due to the tar and other materials in the containment, the observed staining, and the potential to overflow due to the low freeboard.

Air: The release potential to air is moderate due to the very strong tar/oily odor present.

SWMU Number 20 (Photo 30)

Unit Name: Drum Storage Area

Unit Description: This unit consists of an approximately 40x60 foot concrete pad with a 6-8 inch curb. A blind sump is located in each corner, and the unit once had metal racks for holding drums. The area was used for the storage of drums and currently holds 4 drums with oily sludge, and 1/2 drum of used motor oil. A mobile tank of diesel fuel for the annular fluid of the injection wells is also currently stored here.

Release Controls: The unit has a 6-8 inch concrete curb, and blind sumps in each corner.

Wastes Managed: Oils, ?

Dates of Operation: Mid 1970's - present.

History of Releases: None.

Evidence of Releases: The concrete pad and curb is heavily stained. Rain water had ponded in areas of the pad and an oily sheen was seen on it. The concrete ramp in front of the unit was also observed to be heavily stained. There was a strong oily odor in the area.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the heavy staining, low curb, and staining in the ramp area.

Surface Water: The release potential to surface water is high due to the heavy staining, low curb, and staining in the ramp area.

Air: The release potential to air is moderate due to the heavy staining, and strong oily odor.

SWMU Number 21: (Photo 31)

Unit Name: Past Secondary Containment Area

Unit Description: This unit consists of a concrete pad approximately 60x120 feet. There is a metal building in one corner of the structure. The function of this containment area is unknown. Much of the surface is covered with rain water and coke.

Release Controls: The pad has concrete walls approximately 3 feet high.

Wastes Managed: ?

Dates of Operation: ?

History of Releases: None.

Evidence of Releases: The concrete was stained and there were bathtub rings on the interior of the structure. An oily sheen was observed on the ponded water.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is moderate to high depending on the integrity of the unit.

Surface Water: The release potential to surface water is low to moderate depending on the integrity of the unit.

Air: The release potential to air is low due to the low volatility of the wastes expected at the site.

VI. Description of Areas of Concern (AOCs)

This section presents detailed descriptions and release assessments for each AOC identified during the PR and VSI. An AOC includes those units which do not meet the definition of a SWMU but may have released or have the potential to release hazardous constituents to the environment on a non-routine basis. The descriptions encompass unit functional and physical descriptions, dates of operation, materials managed, and release controls, if possible. The release assessments encompass a history of releases and conclusions regarding the release potential to the environment. For the purpose of the release assessments provided in this section, the term "none" indicates that no documentation of a release was found during the PR nor did the company have any recollection of a release. In some cases, no formal record of a release was found, however, evidence of a release was observed during the VSI. Such evidence is noted in the "Evidence of Releases" category. Table 6 provides a list of the AOCs. Figure 2 is a map which shows the locations of all of the AOCs. Copies of the photographs of the AOCs can be found in Appendix C. A summary of the recommendations and conclusions regarding the AOCs is provided in section II.

Table 6

List of AOCs

AOC Number	AOC Name
AOC 1	Coal Unloading/Storage Area
AOC 2	Oil Spray Area of Conveyor Belt
AOC 3	Pre-Heat Coal Fines Recovery Basin
AOC 4	Quench Tower
AOC 5	Quench Water Recycle Sump
AOC 6	Septic Tank
AOC 7	Outfall 001
AOC 8	Outfall for Parking Lot Drain
AOC 9	Half of Tanker Car
AOC 10	Former Pile Area
AOC 11	Vehicle Maintenance Building

AOC Number 1: (Photos 32, 33, 34)

Area Name: Coal Unloading Area

Area Description: This unit consists of an open area where coal was unloaded and stored prior to blending and crushing. Coal arrived mainly by barge prior to 1980, and arrived mainly by rail after 1980. Five different types of coal were normally received by Detroit Coke. Currently the area is used for the storage of coke breeze. There were large areas of ponded water present.

Release Controls: There is a partial wall of sheet piling along the river. Otherwise the coal was stored directly on the ground.

Wastes Managed: Coal, coke.

Dates of Operation: 1910's - present.

History of Releases: None

Evidence of Releases: The area is covered with coal and coke breeze from past and present operations.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the lack of containment. Hazardous constituents that may be released are dependant on contaminants that can be leached out of the coal.

Surface water: The release potential to surface water is high due to the lack of containment. Hazardous constituents that may be released are dependant on contaminants that can be leached out of the coal.

Air: The release potential to air is dependant upon the amount of fugitive dust that was generated during operations.

AOC Number 2: (Photo 35)

Area Name: Oil Spray Area of Conveyor Belt

Area Description: This unit consists of a spray nozzle under a covered conveyor belt that applied diesel fuel to coal prior to charging the coke battery.

Release Controls: There may be a possible sump covered with a metal grating located in front of the unit. If it is a sump, it is currently filled with coke and coal so that its depth can not be determined. A discharge pipe appears to be coming out of the front of the possible sump.

Wastes Managed: Diesel fuel.

Dates of Operation: 1968 - 1991.

History of Releases: None.

Evidence of Releases: The ground could not be observed since it was covered with coal and coke.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is high due to the absent or filled secondary containment.

Surface Water: The release potential to surface water is high due to the absent or filled secondary containment.

Air: The release potential to air is low to moderate depending on the atomization of oil as it was being sprayed.

AOC Number 3: (Photos 36)

Area Name: Pre-Heat Coal Fines Recovery Basin

Area Description: This area consists of a concrete basin approximately 40 x 70 feet, and about 10-15 feet deep with sloped walls. Two approximately 12 inch pipes were seen entering the basin through the sloped concrete wall. This unit was used as a surge basin to allow fine coal to settle out of water generated in the coal pre-heat unit. Currently the unit has fine coal covering the bottom and contains standing water. Grasses are growing in the floor of the unit. The slope surrounding the unit consists of fine coal.

Release Controls: The unit is constructed of concrete.

Wastes Managed: Water containing fine coal.

Dates of Operation: Early 1970's - 1978.

History of Releases: None.

Evidence of Releases: Fine coal surrounds the unit. The unit had less standing water than other containment structures which may indicate leakage.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is moderate due to possible leakage.

Surface Water: The release potential to surface water is low due to the concrete walls of the structure.

Air: The release potential to the air is low due to the low volatility of the wastes.

AOC Number 4: (Photo 37)

Area Name: Quench Tower

Area Description: This area consists of a brick structure used to discharge water onto the coke quench car after hot coke is pushed into it. Water is stored in a steel tank on top of the structure and discharged through overhead pipes.

Release Controls: A sloped concrete floor catches the quench water and diverts it through a concrete trough to the quench water recycle sump. The trough is covered with steel plates of which some were missing.

Wastes Managed: Quench water.

Dates of Operation: 1968 - 1991.

History of Releases: None.

Evidence of Releases: The concrete floor was stained, and there were piles of coke present.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is moderate due to the possibility of overflow and leakage from the unit.

Surface Water: The release potential to surface water is moderate due to the possibility of overflow and leakage from the unit.

Air: The release potential to air is high due to the lack of emission controls.

AOC Number 5: (Photos 38, 39, 40, 41)

Area Name: Quench Water Recycle Sump

Area Description: This area consists of an "L" shaped concrete basin with 4 chambers. Each chamber is approximately 20x20 feet, and 18-20 feet deep. Quench water flows through these chambers to allow fine coke to settle out before being recycled back to the quench tower. Fine coke that accumulates is clam-shelled out to an adjacent concrete pad where it dewaters. Runoff from the pad is diverted back to the recycle sump. Currently there is several feet of rain water within the chambers and the bottoms appear covered with fine coke breeze.

Release Controls: The sump is made of concrete and has a concrete floor. The adjacent pad has concrete curbs about 2 feet high. The curbs were observed to be in poor condition. The pad currently had some coke along the interior edges.

Wastes Managed: Quench water.

Dates of Operation: Late 1968 - present.

History of Releases: None.

Evidence of Releases: An oily sheen was observed on the water within the sump. Staining was observed on the concrete of the sumps and the adjacent concrete draining pad. The water within the sump tested non-hazardous for TC.

Conclusions: <u>Soil/Ground Water</u>: The release potential to soil/ground water is moderate due to the poor condition of the concrete pad where solids removed from the sump are placed.

<u>Surface Water</u>: The release potential to surface water is moderate due to the poor condition of the concrete pad where solids removed from the sump are placed.

<u>Air</u>: The release potential to air is low due to the low volatility of the wastes.

AOC Number 6: (Photo 42)

Area Name: Septic Tank

Area Description: This is a 1,000 gallon tank under a concrete cover. Records indicate that it was a septic tank for a shower area for employees. The front of the cover has an apparent inlet hole.

Release Controls: Unknown.

Wastes Managed: Septic wastes.

Dates of Operation: ?

History of Releases: None.

Evidence of Releases: None.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is low due to the lack of hazardous constituents.

Surface Water: The release potential to surface water is low due to the lack of hazardous constituents.

Air: The release potential to air is low due to the lack of hazardous constituents.

AOC Number 7: (Photo 43)

Area Name: Outfall 001

Area Description: This area consists of an outfall for non-contact cooling water. Approximately 4-5 mgd was discharged when the plant was operating. The outfall was located in a corner formed by iron sheet piling. Absorbent booms were observed stored behind the sheet piling.

Release Controls: None.

Wastes Managed: Non-contact cooling water.

Dates of Operation: ? - 1991.

History of Releases: It was reported that a leak in a spiral heat exchanger was though to have caused an ammonia excursion in the past.

Evidence of Releases: None.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is low due to the direct discharge to surface water.

Surface Water: The release potential to surface water is moderate due to the possibility of past use of the outfall for other than non-contact cooling water.

Air: The release potential to air is low due to the non-contact nature of the cooling water.

AOC Number 8: (No photo)

Area Name: Outfall for Parking Lot Drain

Area Description: This area consists of an outfall for runoff from the parking lot. The outfall appeared to be a 12 inch diameter concrete pipe.

Release Controls: None.

Wastes Managed: Parking lot runoff.

Dates of Operation: ? - present.

History of Releases: On December 15, 1990, the facility experienced a spill of an indeterminate amount of an oily substance which produced a sheen on the Rouge River. A sorbent boom was deployed around the outfall, and heavy pockets of the material were removed. It is believed that the source of the sheen was the parking lot at Detroit Coke.

Evidence of Releases: None.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is low due to the direct discharge to surface water.

Surface Water: The release potential to surface water is moderate based on the documented release and possible past releases.

Air: The release potential to air is low due to the low volatility of the wastes.

AOC Number 9: (Photo 44)

Area Name: Half of Tanker Car

Area Description: This area consists of a railroad tanker car with a heating coil that has been cut in half. It was purchased for an unknown use. The unit currently contains some rain water.

Release Controls: None.

Wastes Managed: ?

Dates of Operation: Late 1980's - present.

History of Releases: None.

Evidence of Releases: An oily sheen could be seen on the water within the tank.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is moderate due to the lack of secondary containment.

Surface Water: The release potential to surface water is low as long as the unit is covered.

Air: The release potential to air is low due to the low volatility of the waste.

AOC Number 10: (Photo 45, 46, 47)

Area Name: Former Waste Pile Area

Area Description: This area consists of an open field where waste piles had existed in the past. Most of these pile have been removed, recycled, or disposed of. Prior to the waste piles, coke was stored in this area. Currently a portion of this area has been leased to a freight company.

Release Controls: None.

Wastes Managed: Coal, coke, railroad ties, wood pallets, telephone poles, brick, concrete, scrap metal, rubber tires, rubber belting, and rubber hoses.

Dates of Operation: ? - present.

History of Releases: None.

Evidence of Releases: Most of this area is covered with a dark layer of coke and coal.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is low due to the lack of hazardous constituents present in the wastes managed in the area.

Surface Water: The release potential to surface water is low due to the lack of hazardous constituents present in the wastes managed in the area.

Air: The release potential to air is low due to the lack of hazardous constituents present in the wastes managed in the area.

AOC Number 11: (Photo 48)

Area Name: Vehicle Maintenance Building

Area Description: This area consists of a building with a concrete floor used to service heavy construction equipment. Motor oil, hydraulic fluid, antifreeze, and gasoline are stored in metal containers or drums on the floor in this area. A parts washing unit that is no longer used is also located in this building.

Release Controls: There is no floor drain, and runoff pools in a depression at the front of the building. At the time of the inspection, a large pool of rain water had filled the depression.

Wastes Managed: Motor oil, hydraulic fluid, antifreeze, gasoline.

Dates of Operation: ? - present.

History of Releases: None.

Evidence of Releases: The concrete floor was heavily stained, and an oily sheen was observed on the ponded water.

Conclusions: Soil/Ground Water: The release potential to soil/ground water is moderate due to the observed staining, and sheen on the ponded water.

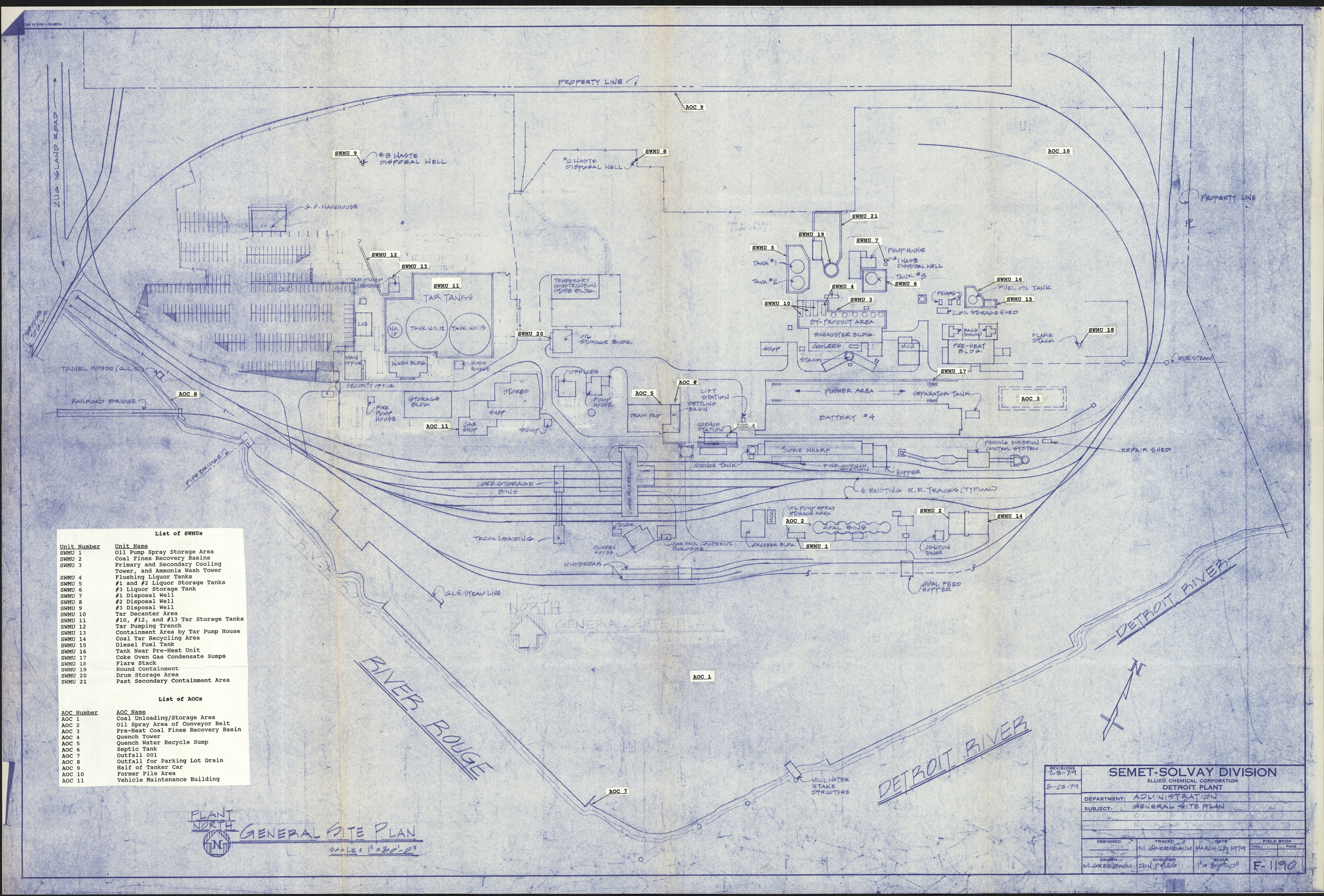
Surface Water: The release potential to surface water is high due to the observed staining, and sheen on the ponded water.

Air: The release potential to air is moderate to low depending on the volatility of wastes that were produced in this area.

Appendix A

Figures

FIGURE 1 LOCATION MAP OF DETROIT COKE CORPORATION IN WAYNE COUNTY, MI.



List of SWMUs

Unit Number	Unit Name
SWMU 1	Oil Pump Spray Storage Area
SWMU 2	Coal Fines Recovery Basins
SWMU 3	Primary and Secondary Cooling Tower, and Ammonia Wash Tower
SWMU 4	Flushing Liquor Tanks
SWMU 5	#1 and #2 Liquor Storage Tanks
SWMU 6	#3 Liquor Storage Tank
SWMU 7	#1 Disposal Well
SWMU 8	#2 Disposal Well
SWMU 9	#3 Disposal Well
SWMU 10	Tar Decanter Area
SWMU 11	#10, #12, and #13 Tar Storage Tanks
SWMU 12	Tar Pumping Trench
SWMU 13	Containment Area by Tar Pump House
SWMU 14	Coal Tar Recycling Area
SWMU 15	Diesel Fuel Tank
SWMU 16	Tank Near Pre-Heat Unit
SWMU 17	Coke Oven Gas Condensate Sumps
SWMU 18	Flare Stack
SWMU 19	Round Containment
SWMU 20	Drum Storage Area
SWMU 21	Past Secondary Containment Area

List of AOCs

AOC Number	AOC Name
AOC 1	Coal Unloading/Storage Area
AOC 2	Oil Spray Area of Conveyor Belt
AOC 3	Pre-Heat Coal Fines Recovery Basin
AOC 4	Quench Tower
AOC 5	Quench Water Recycle Sump
AOC 6	Septic Tank
AOC 7	Outfall 001
AOC 8	Outfall for Parking Lot Drain
AOC 9	Half of Tanker Car
AOC 10	Former Pile Area
AOC 11	Vehicle Maintenance Building

PLANT NORTH

GENERAL SITE PLAN

SCALE: 1" = 80'-0"

REVISIONS
7-3-79
8-23-79

SEMET-SOLVAY DIVISION
ALLIED CHEMICAL CORPORATION
DETROIT PLANT

DEPARTMENT: ADMINISTRATION
SUBJECT: GENERAL SITE PLAN

DESIGNED	TRACED	DATE	FIELD BOOK VOL.	FIELD BOOK PAGE
	M. GREENBAUM	MARCH 28, 1979		
DRAWN	CHECKED	SCALE		
M. GREENBAUM	DON PYLES	1" = 80'-0"	F-1190	

Appendix B

VSI Field Notes

List of units/areas to inspect during VSI
Detroit Coke Corp.

		Examined
-Coal Storage area (prior to blending)		✓
-Coal feed hopper	removed	✓
-Coal mixing bins		✓
-Hammer mills (2)		✓
-Battery coal bins		✓
-Coke oven battery		✓
-Pusher area		✓
-Quench track area		✓
-Quench station		✓
-Quench tank		✓
-Settling basin		✓
-Pushing emission control system		✓
-Drain pad		✓
-Crusher building		✓
-Oil pump spray storage area		✓
-Coke screening		✓
-Screen house		✓
-Coke Storage bins / loading area		✓
-Direct contact coolers		✓
-Exhauster building		✓
-By-product area		✓
-Oil storage shed		gone
-Fuel oil tank		✓
-Waste disposal wells (3)		✓
-Oil storage building		✓
-Tar tanks		✓

- Wash building —
- Lab ✓
- River outfalls (2) ✓
- Coke wharf ✓
- Shop + nearby sump ✓

Potential SWMU's in Detroit Coke's Prelim. RFA

1. Wood, rubber, metal, coke pile — Piles being sorted & disposed/recycled
2. Coke Concrete pile
3. Rubber tires, belting, coke pile
4. Concrete, stone pile
5. Brick pile ✓
6. Brick pile
7. Rubber tires, rubber hoses, coke pile.
8. Wood pile
9. Wood, railroad tie pile
10. Wood pile — disposed of
11. Wood pallets pile — disposed/reuse
12. Metal container box w/ debris — disposed
13. ~15 metal door frame pile — sold as scrap
14. Recycling area for coal tar on conc. pad ✓
15. Diked area for bulk density oil ✓
16. metal drums — sold ✓
17. Coal tar decanter container — removed ✓
18. Concrete diked area w/ rain + oil ✓
19. ~50 standpipe assem. parts pile — sold as scrap
20. ~20 standpipe assem. parts pile — sold as scrap
21. Scrap steel pile — sold as scrap
22. Scrap steel container box — disposed
23. Quench tank recycling area ✓
24. ~70 metal drums on diked area ✓
25. debris pile (coke) — Coke being sold, remainder disposed
26. Rubber belt pile — disposed
27. Tar tank dike area ✓
28. Container box ✓
29. Ammonia liquor storage tank ✓
30. Ammonia liquor storage tank ✓
31. Ammonia liquor storage tank ✓
32. #1 Tar decanter tank ✓
33. #2 Tar decanter tank ✓
34. #3 Tar decanter tank ✓

Additional Units

- Areas of old coke batteries (3) —
- Flare stack ✓
- Underground coke oven gas lines ✓
- Coke oven gas line sumps ✓
- half tank by fence line (N end of plant) ✓
- Dumpster behind warehouse ✓
- Vehicle repair area. ✓
- Tar lines ✓

7/14/92 Meeting w/ Carl Curry

Questions

1. Information on surficial geology?

2. Any history of flooding at site?

3. Any known areas of fill?

4. Run-off controls at site?

5. Piping systems to examine?

6. UST's?

7. Floor drains / sumps?

8. Maintainance areas involving paints, solvents, etc.?

Present: Carl Curry, Allen Melcer, G. Rudloff, Paul

Answers:

1. May be some info from #3 well. (no)
Yellow Freight (CERCLA) - may provide some information

2. no.

3. all fill to some extent

4. Pools by coal pile + goes to city.

5. -old diesel fuel UST by * 15
   -emptied + filled w/sand
   -gasoline UST by gate
   -removed

6. see 5.
   -sewer system

7. gas system sumps

8. Auto shop.

*-We need to check schedule of compliance with model RCRA permit.
   -might need a permit mod.

7/15/92 VSI at Detroit Coke

Weather: Overcast, light rain, ~70°
Calm.

1. Outfall for parking lot drain
   -small outflow, no sheen or discoloration.

2. Outfall 001 (Photo 1)
   -used for non-contact cooling water 4-5 mgd.
   -startup - 1991
   -may have been a leak in spiral heat exchanger → amonia excursion.
   -absorbent material stored behind sheet piling.

3. Coal unloading area (Photo 2)
   -coal was unloaded by conveyor + sent to crushing + blending
   -barge prior to 1980 + rail after
   -used startup - 1991
   -received ~5 types of coal
   -area is presently used to store breeze
   -area covered with coal/coke

4. Oil storage area (Photo 3, 4)
- oil for bulk density control stored
- previous tank held oil UST
  - ~~removed~~ & filled w/ sand
  - no testing done
- concrete secondary containment w/ conc. floor
- staining seen on walls & coming from cracks
- coke/coal on ground
- filled w/ rainwater
  - oily sheen on surface & oily smell
- no history of releases, no samples

5. Oil spray area of conveyor belt
- spray nozzle under covered conveyor belt. (Photo 5)
- no containment if oil overflowed or sprayed
- ground covered w/ coal/coke
- possible sump filled w/ coke/coal in front. (discharge pipe in front?)
- startup - 1991
- no systematic releases reported

6. Coal Fines recovery basin & KO87 coal mixing pad. (Photo 6, 7, 8)
- deep conc. structure used for fines recovery
- adjacent conc. pad w/ broken ~12 in curb used for KO87 & coal mixing.
  - surface stained.
- basin has some fine coal & tar w/ rain
- basin is ~16'-18' deep,
  - walls stained
- tar may have resulted from pre-heat of coal.
- oily sheens seen on water
- basin is covered w/ plastic to control rain water
- basin constructed ~1975 & used until 1991
- tank consists of ~3 basins
- much coke/coal around.
- mixing on pad done w/ front end loader
- curbing in bad shape & other conc. too.
- some water seen in basin under pump mountings.
- tar on pad non-haz. for TC

7. Quench water recyle sump (Photo 9, 10, 11)
- concrete basin w/ 4 chambers
- coke/coal fines on pad.
- ~ 18'-20' ft deep
- coke fines settled out here
- breeze was clam shelled out daily & placed on adjacent conc. pad w/ ~ 2' curbs in bad shape.
- presently has rain water w/ oily sheen.
- staining on concrete & breeze in bottoms
- late 60's - 1991
- adjacent pad drains back into sump
- water TC non-haz.

8. 1,000 gal tank by #7 (Photo 12)
- unknown tank w/ conc. cover?
- hole in front cover (for piping?).

9. Quench Tower House (Photo 13)
- brick structure ~40-50' high
- conc. floor sloped to catch run-off & divert to recycle sump #7.
- conc. floor stained & piles of coke present
- built w/ #4 battery - 1991
- water discharged from overhead pipes onto quench car.
- pipes connected to overhead tank
- water flowed through conc. trough w/ steel plate covers.

10. #3 Amonia liquor storage tank (Photo 14)
- stored prior to deep welling
- 180,000 gal
- ~1960's - 1991
- has water & possible heel presently
- conc. containment.
- much staining, oily smell,
- corrosion? at tank base
- corrosion of tank walls
- "ring" at tank base
- conc floor badly cracked/corroded.
- containment was drier than others (draining?)

11. Round diked area (Photo 15, 17)
- provided secondary containment for previous tank. (~6-7 ft deep bg.)
- filled w/ tar + rain water, solids
  - benzene toxic
- staining + oily sheen, strong tar-oily smell.
- rectangular area behind tank is connected.

12. Secondary containment area. (Photo 16)
- unknown.
- presently holds rainwater
- some oily sheens + coke
- walls ~ 3' high w/ conc. floor.
- adjacent to # 11.
- walls have stains + bathtub rings.

13. Tar decanter area (Photo 18)
- conc. platform held 3 decanters
  - ~4' high
- much staining + base under rain water
- no history of releases
- ~4,000-5,000 gal ea.
- conc pad in front goes to sump → liq. storage → deep well

14. Flushing liquor tanks area (Photo 19)
- 2 tanks for flushing liq.
- ~6,000 gal. ea.
- secondary containment - conc. floor + curb ~ 12 in. high.
- may have tar bottoms
- curb broken in areas
- much staining + breeze.
- 1960's - 1991

15. Primary, Secondary cooling tower + Amonia wash tower
- 3 tanks (Photo 20, 21)
- secondary containment provided by conc. floor + 12 in conc. curb
- filled w/ rainwater (no sheen)
- much staining on tank sides + conc.
- 2nd containment also includes 3 ESP units.
  - staining on tanks.
- tar seen in base of one tank that was open.
- some rusting of tanks.
- no reported releases, but may have had leaks at some flanges.

16. ※1+2 liquor storage tanks (Photo 22,
- 2 tanks 180,000 gal ea. (23 base tank)
- secondary containment conc. floor + walls ~ 4-5 ft high.
- rainwater drains to rectangular tank by unit ※ 11
- tanks rusted + stained
- stained concrete
- conc. badly corroded in areas
- ~1968 - 1991
- tank ※2 ruptured when recently filled with water
- severe corrosion on tank ※2 ※1
- oily sheen on ponded rain water

17. ※13 Tar Storage tank, + ※12, + 10
- used for tar storage (Photo 24)
- ~200,000 , ,125,000
- conc. containment w/ 4' walls
- ~12-18 in freeboard left, rest filled w/ tar + water (~100,000 gal Tar)
- tanks empty except for some poss. tar + water in ※10
- much rusting of tanks
- rivited construction.
- containment gets mor-
- rainwater → byproducts → deep well

shallow at back ~2-3 ft high
- ※12 tank has hole cut in it 1980 12 ft²?
- piles of breeze in containment
- ※10 used - 1991
- ※11 + 12 ? - 1980?
- no record of releases that resulted in tar in containment area.
- present "as long as can be remembered".
- (Photo 25) shallow area of contain.
- (Photo 26) ※10 tank

18. Dumpster of non-hazardous material
- will be disposed off-site
- suspected polymer used in injection stream.

19. Tar pumping trench (Photo 27)
- pipe ran in conc. trough to Allied signal
- water tested ok, but may contain tar in trench (sheen)
- no reported releases
- goes underground at a point
- collected rainwater would go back to byproducts + deep well
- requires pumping

- much staining on adjacent conc. wall & ancillary piping. (Photo 26)
- steel cover plates allow much rainwater in (bent, missing, etc).

20. Containment by tar pump house (Photo 28)
- shallow conc. sump behind tar pumphouse.
- ~12 in deep w/ metal grate
- presently filled w/ rain water has oily sheen.
- conc. & grate has much tar staining.
- coke & tar in area.

21. Drum storage area (Photo 29)
- concrete pad w/ ~ 6-8 inch curb
- drum racks have been removed
- much staining & oily smell
- currently has 4 drums oily sludge & ½ drum used motor oil.
- has some ponded water w/ oily sheen
- has blind sumps in corners.
- ~ mid 70's - present
- no samples in sumps.
- wheeled tank of diesel fuel for anular fluid in deep wells stored here.
- ramp stained.

22. Vehicle Maintenance Building (Photo 30)
- bulding w/ conc. floor where front end loaders are serviced
- oil stored in drum on rack
- hydraulic oil, motor oil, & anti freeze stored in drums on floor
- conc. heavily stained
- no floor drains.
- runoff pools in front of bldg
- gasoline stored in cans on floor
- Out of service safety-Kleen unit.

23. ✕3 Disposal Well (Photo 31)
- shut in since late 1991 inj = 125 psi
- injected anonia liquor ann = 320 psi
- annulus system still operating
- 1978 - present
- ~100,000 gpd between 3 wells.

24. ✕2 Disposal Well (Photo 32)
- shut in since ~ 1991 inj. = 10 psi
- injected anonia liquor ann = 300 psi

- pressure is low since well had to be killed due to wire line breaking during test
- ~1974 - present
- rain water on well

25. Half of a tanker Car (Photo 33)
- interior heater coil
- has rain water w/ oily sheen
- no secondary containment
- ~late 80's - present ~~inj=~~
- coke/coal on ground ~~ann=~~

26. #1 Disposal Well (Photo 34)
- has tubing obstruction
- 1969-1991
- injected weak amonia liquor
- inj = 140 psi ann = 325 psi

26. Remainder of Pile 10 (Photo 35)
- coke breeze, wood, stone, metal, brick.
- no release controls

27. Diesel Fuel Tank (Photo 37)
- ~2,000 gal tank
- rusting
- secondary containment w/ ~5 ft wall. Not sure if floor is conc.
- bottom full of coke/coal w/ rain water. some sheen.
- 70's - 1991
- black bathtub ring on conc ~2-3 ft.
- has outfall to unknown area.

28. Tank by Pre Heat Unit (Photo 36)
- fuel oil tank ?
- 1979-
- much staining on sides
- Conc. secondary containment w/ unknown floor. walls ~5 ft.
- asphault apron around tank base.
- gravel, tar flows?, coke on ground
- stained conc.
- tank appears insulated.

29. Flare Stack (Photo ①, ②) (38)
- used to flare excess COG
- ~1968-70 - 1991
- continuously lit

- soil staining at base & strong tar oily smell.
- coke/breeze on ground, black soil
- some possible stains on side.

30. Coal Fines Recovery Basin (Photo ③)
- used as settling pond for fine coal from water from Pre-heat unit (surge)
- Concrete basin w/ sloped walls ~ 10-15 ft. deep.
- bottom covered w/ coal/coke & partly vegetated
- ~early 70's - ~1978
- surrounded by berm of coal fines?
- has 2 inflow pipes in wall ~ 12" dia.

31 Area of former piles 1-9 (Photo ④⑤)
- being sold as scrap, coke, or disposed after sorting
- Currently remaining piles of railroad ties, pallets, telephone poles, concrete rubble
- in past coke was stored in this area & much remains on ground
- Part of area is leased out at present to barge company.
- Photo ⑥ top of coke battery

32 - COG sump (drip) last sump before battery (Photo ⑦)
- - 1991
- weak amonia liquor
- goes back to decanter
- badly corroded
- coke around base
- tar? on sides

33 Underground coal conveyor (Photo ⑧)
- have problems keeping rain water out
- concrete foundation
- pump as needed
- - present
- much coal around

34 Coal storage area (Photo ⑨⑩)
- coal stored in piles
- area "paved" w/ coal
- ? - present
- sheet piling wall along river for partial runoff control.

35. Photo (11) Crusher building 35.
- floor covered w/ coal fines

36

General Plant Site
- most ground is covered with coal, coke, coke breeze, and some tar.
- soil staining is hard to observe since there is much ponded water at the site & the soil is wet from rainfall

7/16/92 VSI

Weather - Sunny, 70's, calm

Photo (12) - looking toward Pre-Heat unit from river

Photo (13) - toward bag house for pushing emissions

Photo (14) - toward coal bins from river

Photo (15) - toward coal crusher from river.

Photo (16) - Coal conveyor belts

Photo (17) - containment for oil spray storage tank.

Photo (18) - Coke ovens from L of storage bins.

Photo (19) - Toward Pre-Heat unit from near quench recycle sump

7/16/92 Post-VSI Meeting

Present: Carl Curry, Paul , Allen, Greg B.

- Received copies of analytical data from recent sampling.

- Detroit Coke will call Allen with information on 1,000 gal unknown concrete tank?

- blind sumps in drum storage pad are concrete floored + were pumped when needed.

- Yellow Freight may have 307 ground water data. They are on the 307 list.

- Allen will work on a permit mod to allow injection of rain water.

1. outfall 002 - stormwater from parking lot - looks OK

2. Outfall 001 - was non-contact cooling water - is shutdown now. used to be ~ 4 million Gal./day. was closed back in 70's had leak in line. led to ammonia excursion. was filled in 70's. look photo Roll 1 slot 1

4. SWMU 15 - stored oil for spraying on coke to control bulk density prior to ovens. Currently contains coke breeze + water. has not been sampled. water has slight sheen to it. No reported release from this tank. Underneath is abandoned diesel fuel tank filled with sand. Some black spots floating. maybe oil.

oily smell →

walls stained some cracks

3. → Roll 1 Slot 2 looking SE from SWMU 15. coke loading zone for coke now used to store breeze ~~oil~~ fuel oil addition.

R1, S3 SWMU 15 looking West tank looking

RB 54 - SWMU 15 outside of tank looking NE.

5. → RI 55 - Conveyor belt where oil was sprayed on coke, at point where spray nozzle was located above belt (not shown). Coke + coal on ground

conveyor belt where oil is sprayed

pad below conveyor area with pipe leading out to ground directly to S of SWMU 15 next to conveyor belt.

6. SWMU 14 Mixed coal with coal tar (K087) sampled tar on pad. Sample of K087 came back non-hazard for TC Tank on W end of SWMU 14 has water with coal tar K087. Tar removed and sold as much as possible water has slight oily sheen. Tar accumulated prior to '60 when coal was preheated and fines were sieved out and would settle in tank. Tank is about 17 feet deep. Tank was installed in mid 70's. Tank has cement bottom. Tank on N side is muddier, but still has tar on bottom

concrete looked corroded water under pump mounts

R1 S6 tank on SW end of SWMU 14

R1 S7 pad on SWMU 14 where they mixed coal and tar in background can see tanks of R1 S6

R1 S8 tank on SWMU 14 showing the muddier liquid. also coal and tar.

Grey and my numbering system are off. he used 3+4 for coal storage area. Dill jumps to number 7 to match grey. so SWMU 23 is stop 7.

7. SWMU 23 - stored breeze and water from quench of charged coal water was sampled and is TC non-haz. Tank put in in late 60's. when emptying Coke breeze, they put it on pad with a crane, and water would drain off back into tanks. Tanks are cement with cement bottom. no sign of coal tar on tank bottoms.

water had oily sheen

R1 S9 - SWMU 23 shows pad where Coke breeze was recovered in background are tanks where quench runoff was stored and where breeze was recovered from.

R1 S10 - ~~old~~ coke breeze tank with water + breeze on ~~bottom~~ part of SWMU 23

R1 S11 - rest of tanks on SWMU 23. has water + breeze in it. has tested non-haz.

~~8~~. R1 S12 - shot of 6. its cement cover that says 1000 gal. on it could be old tank. not shown on original site map.

6. possible cement tank cover shown in photo R1 ~~S11~~ S12.

9. Quench Station where charged coke was was ~~washed~~ with ~~1500~~ 5000 gal. of water. (1500 gal used per quench) water went to tanks in 7.

9. cont. water came from overhead pipes. concrete is stained

RI S13 - shot of 9. Quench Station showing overhead pipes for water. water recovery drain is to lower right.

10. tank #3 → SWMU 31 stored ammonia liquor prior to injection. has carbon filter to control air emissions. 180,000 gal tank, holding water now. was installed mid-60's tank has concrete floor. area inside dike is dry. some soil staining on floor, probably coke breeze.

RI S14 of stop 10, tank 3 showing rust on wall of tank, soil at base of tank with some darkening.

11. is of SWMU 19. is dike around area where there was tanks. tanks is gone. have tar and rainwater in dike has water, coal tar, coke breeze. sample came out TC haz. for benzene. oily sheen oily smell.

air emissions tests came out non-haz
~~tank~~ dike area is ~7 ft. deep
RI 515 - shot of contents of stop
11., SWMU 16. showing tar + water

12. containment area of unknown
purpose
RI 516 shot of stop 12, containment
area filled with coal + water, ~~as~~
No ~~testing~~ sampling was done of this area.

RI 517 shot of area behind
SWMU 16 showing water in
area with pipe from dike into area.
SWMU 16 is in left of picture,
stop 12 is to the right.

13. is of SWMU's 17, 32, 33, 34.
shows where decanter tanks were.
Tanks have been removed. 17 is
loading area where tanks were
emptied. rainwater is filling loading
area. No samples taken. Any spills
~~were~~ were caught in drain and ~~pumped~~
pumped back into system. 17 is a
concrete pad.

RI S16 is of decanter pads and loading pad, SW nos 17, 32, 33, 34 listed as stop 13 shows rainwater on pad of ~~RI~~ SW no 17

14. liquor flushing tank - may have tar bottom on tank. liquor was used as cooling for coke battery. second at 90°. curb was broken in places, staining

RI S19 is of stop 14 liquor flushing tank with 12' dike around it.

15. ~~Coal~~ 3 cooling towers and 3 smaller vessels. used to cool coke gas. tanks are rusty on bottom. rainwater in dike areas. some solids in base of cooling towers possibly tar + naphthalene 3 smaller vessels are electrostatic precipitators, may be some tar on bottom. staining on sides of tanks

RI S20 - base of 3 cooling towers and small dike area. stop 15

RI S21 - base of cooling tower showing solids in tank. stop 15. Also rainwater & inside dike.

15. (cont.)
Some black streaks on sides of tanks where sampling pts are and ~~[illegible]~~ where pipes entered tanks. probably from small leaks that were repaired.

16. liquor tanks 1, 2, SWMU 29, 30
150,000 gal. tanks. drainage for tanks 1, 2, 3 all went to containment area shown in RI S12. the area in dike is drier than the other diked areas. tanks show some rust, black streaks. tank 2 appears a leak when filled with water
RI S22 east of tank 2, stop 16
SWMU 30
both tanks are empty but tank 1, SWMU 29, may have tar bottom. oily sheen on water

RI S23 - base of tank 1 SWMU 29
with diked area showing lack of ~~[illegible]~~ rainwater, also shows rust.

SWMU 27

17. Coal tar K087 storage area has 3 tanks, tank 12, 13 are empty may have tar bottom. tank 10 has some water, maybe tar bottom, Containment area has rainwater fill with coal tar on bottom, ~ estimate 100,000 gal of coal tar on bottom of containment area.

RI 524 - stop 17 of SWMU 27 showing tank 13, Containment dike and rainwater fill.

tank 12 was cut into prior to 80 not used for awhile. only tank 10 was used up to plant closing.

RI 525 - shot of tanks 12, 13 showing cut in tank 12. tank 12 is on right, 13 on left. also shows water filled diked area. tanks appear rusted. some coal in containment area also shown in RI 525

no record of release from tanks, piles of breeze in containment area.

18. dumpster filled with unused polymers that used to be for treating waste prior to injection, is tested non-haz. put in dumpster.

19. pump house + pipeline for carrying tar to customer (Allied - Signal) pipeline is filled with rainwater. rainwater used to be pumped back to by-products decanter system. water has some black blobs floating in it.
dike wall behind tank 10 has tar on it. looks like pipeline broke when he was pumping and was a tar spill.

Steel cover plates over pipeline trench were bent, allowing rainwater to get in.

R1 526 - shot of dike wall between tank 10 + pump house showing tar spillover.

R1 527 - shot of pipeline filled with rainwater in foreground, pumphouse to left in background. tar spills evident in background.

20. containment area behind coal tar 12" deep pump house. filled with oily water overflowing containment to rear. some piles of coal tar in area, grating stained with coal tar.

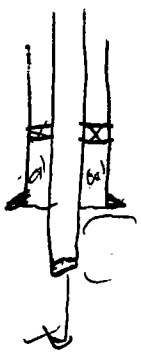
RI 528 shot of stop 20 showing containment area filled with water coal tar pile in front of shot.

21. old oil storage area - has 55 gal. drums on racks was removed. has 4 drums of oil sludge on it now. dike area is stained. has drainage hole at each corner, lets water underneath pad into blind sumps. no samples taken of ~~material~~ soil around pad. some oily water in corners of pad. oily smell, tank of diesel fuel.

RI 529 view of stop 21, SW NW 24 showing drainage hole in foreground, drums on pad, and oily water in rear outside of pad shows staining

22 fuel repair shop. has oil on floor that washes outside into general pool. will eventually get pumped to sewers. some oil, antifreeze drums along side. oil drum in back on rack

heavily stained concrete



R1 530 shot of car repair area stop 22. shows oily water in foreground that runs out to pool. drums of oil on rt. side.

23. injection well #3 reads 125 psi injection pressure at surface. Annulus pressure ~ 320 psi looks in good condition.

R1 531 shot of injection well 3

24. injection well #2. injection pressure reads 10 psi, Annulus pressure 300. water on wellhead is rainwater that leaked from roof

R1 532 shot of injection well 2

25. half of tank car with rainwater ~10 full. is covered. Oily sheen on surface.

R1 533 shot of 25, ¼ tank car

26. Well #1. well is blocked in the Tubing. Inspec. Pres. 140. Annulus 325.

R1 534 picture of Well #1

26 debris pile listed as Sump 10. + 11
wood, coal, metal, etc.

R1 535 - shot of 26

27. + 25 fuel oil tank, not listed as a Sump
has outflow pipes with valve
adjacent tank also has outflow
don't know where outflows go.

not sure if cement bottom

R1 536 - shot of side of adjacent tank
in 27. shows some black crust at
base tank that may be asphalt apron.
tank may have been insulated

28. → R1537 - first smaller fuel Tank
with Tank from R136 in background

29 flare stack - has chemical smell
used for burning excess coal gas
built ~ 68 black soil around
is wet coal + breeze

R1538 - shot of based flare stack
probably didn't come out

RZ 51 - base of flare stack shows some blackened soil

RZ 52 - Whole flare stack -

30. old coal fines recovery system pit cool from preheat and let it surge over. Concrete bottom + sides no sampling of material

RZ 53 - shot of coal fines recovery basin in 30, shows grass growing in bottom 2 inflow pipes.

31. RZ 54 - overview of debris piles SWMUs 1-9

SWMUs 1-9 are called stops 31. SWMUs 1-4 are on land leased to a barge Co. No evidence of any structures, land was used for coke storage

RZ 55 shot of coke facility from SWMU 1.

R2 S6 - Top of coke battery showing coal input holes

32. Coke oven gas sump - collects weak ammonia liquor from coke gas - would go to decanter and used to cool ovens or down inspection well ~~&~~ badly corroded concrete on side.

R2 S7 - Coke oven gas sump - 32

R2 - ~~S~~ S6 - Shot of underground conveyor system for carrying coke breeze 33

33. Underground conveyor system

34. Coal ~~Storage~~ area - runoff control is sheet piling along river.

R2 S9 - Coal in storage area 34

R2 S10 - Coal in area with crusher in background.

35. ~~35~~ Crusher bldg. - floor covered with coal fines

R2 S11 - shot of crusher bldg. #35.

overview shots of the facility

R2 S12 - preheat unit showing stack + baghouse

13 panorama of plant
14 from coal storage area
15 near River - looking NW
~~16~~

R2 S16 oil storage tank and oil sprayer conveyor belt

S17 outside of oil storage tank showing cracks in containment and cones.

S18 Coke oven battery showing ovens. ~~facing~~ looking North

S19 looking East from quench fines storage tank in foreground.

Sump 24 - oil storage pad has blind sump underneath which has a cement bottom. They would pump it out occasionally to empty it. They haven't pumped it since the plant closed. We listed it as stop 21.

Yellow Freight Co. is neighbor facility on NDNR 307 list. We should ask NDNR for copies of any groundwater studies or monitoring that may be available.

~~entry modify Wells 2 + 3 to above~~

40 CFR Part 266, Part 271
signed 6/12/92
Listing of haz waste exclusions

Appendix C

VSI Photo Log

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 1
LOCATION: Oil pump spray storage area
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melan
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/___ f:___
NEGATIVE LOCATION: U.S. EPA FILE #: ___
PROCESSED BY: Graffoto
PHOTO #: 1 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 1
LOCATION: Oil pump spray storage area
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melan
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/___ f:___
NEGATIVE LOCATION: U.S. EPA FILE #: ___
PROCESSED BY: Graffoto
PHOTO #: 2 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 1
LOCATION: Oil pump spray storage area
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 3 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 1
LOCATION: Oil pump spray storage area (interior of containment)
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 4 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 2
LOCATION: Coal fines recovery basins
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/___ f:___
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffeto
PHOTO #: 5 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 2
LOCATION: Coal fines recovery basins.
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/___ f:___
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffeto
PHOTO #: 6 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 3
LOCATION: Primary + secondary cooling tower, and ammonia wash tower
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 7 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 3
LOCATION: Primary + Secondary cooling tower, and ammonia wash tower
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 8 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 4
LOCATION: Flushing liquor tank

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 9 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 5
LOCATION: #1 + #2 liquor storage tanks

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 10 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 5
LOCATION: #1 + #2 liquor storage tanks
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 11 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 6
LOCATION: #3 liquor storage tank
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
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PROCESSED BY: Graffoto
PHOTO #: 12 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 7
LOCATION: #1 Disposal well

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
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PROCESSED BY: Graffoto
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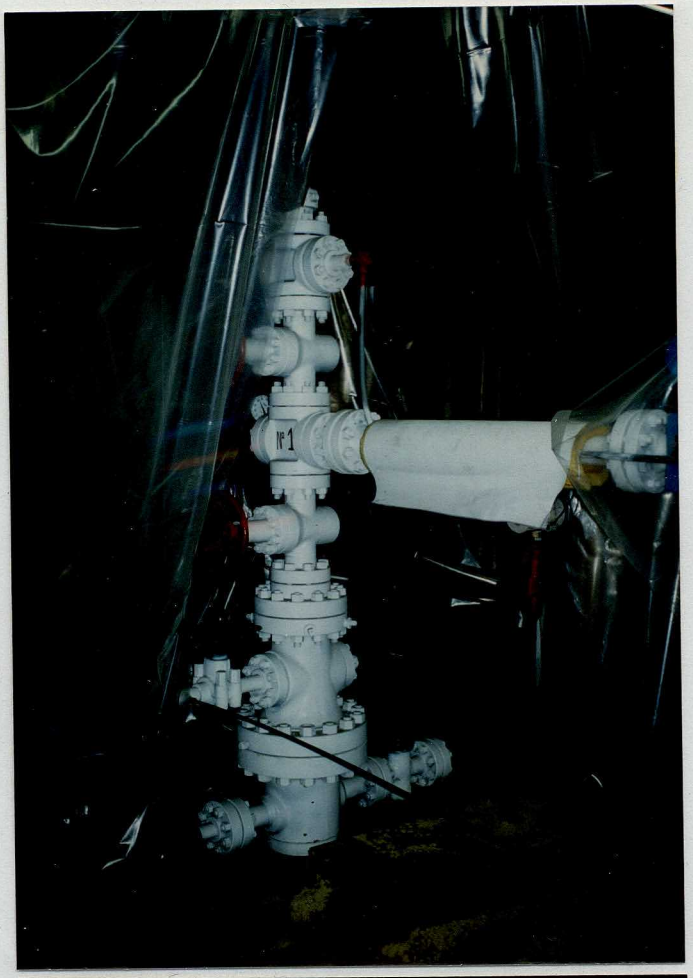
GPO 835-589



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 8
LOCATION: #2 Disposal well

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
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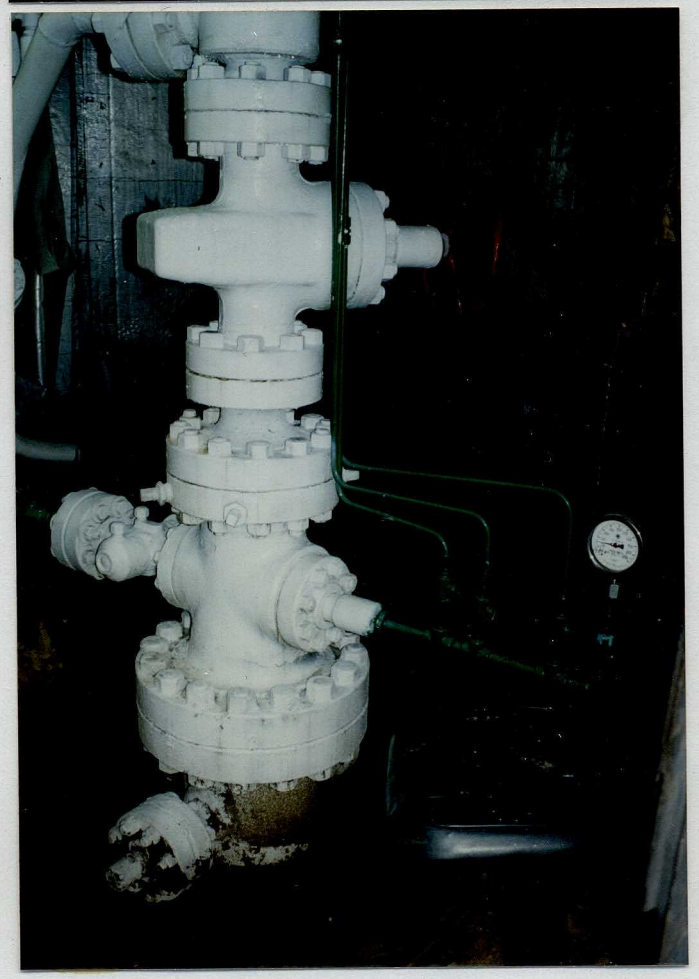
GPO 835-589



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 9
LOCATION: #3 Disposal well

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K Gold ASA: 200 T:1/ f:
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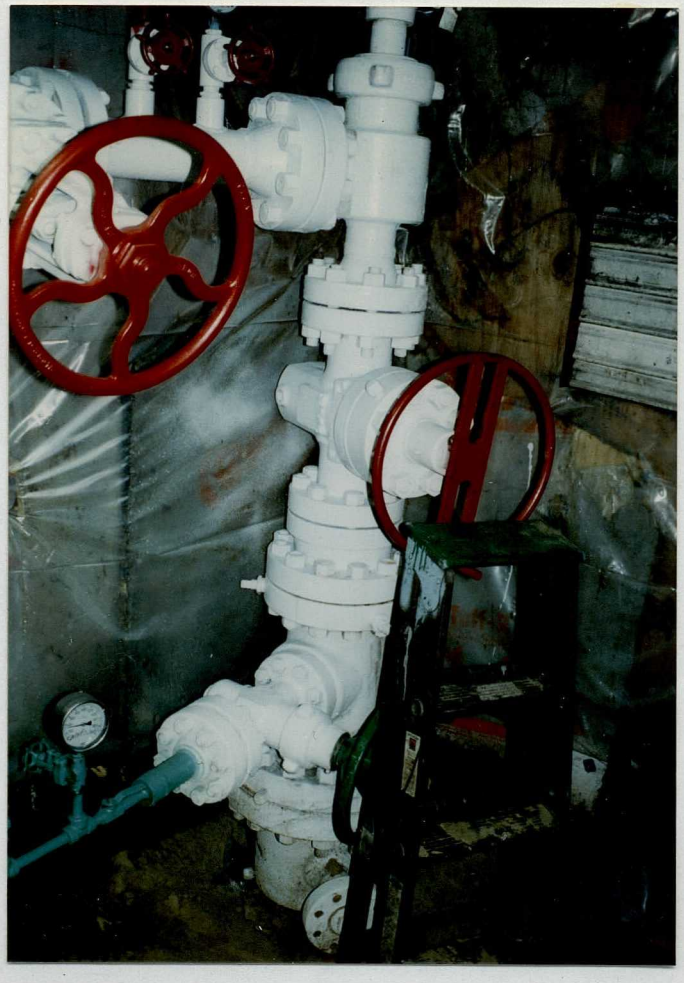
GPO 835 - 589



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 10
LOCATION: Tar decanter area

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 16 of 54

GPO 835 - 589

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 11
LOCATION: #10, 12, and #13 Tar storage tanks
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
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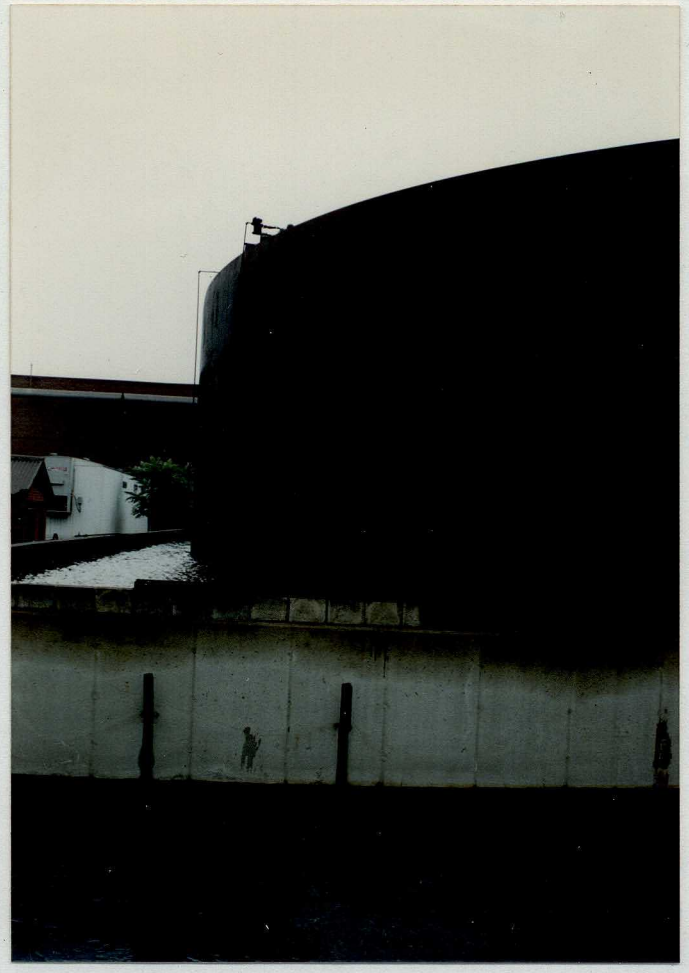
GPO 835-559



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 11
LOCATION: #10, 12, and #13 Tar storage tanks
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 18 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 12
LOCATION: Tar pumping Trench

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 19 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 12
LOCATION: Tar pumping Trench

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
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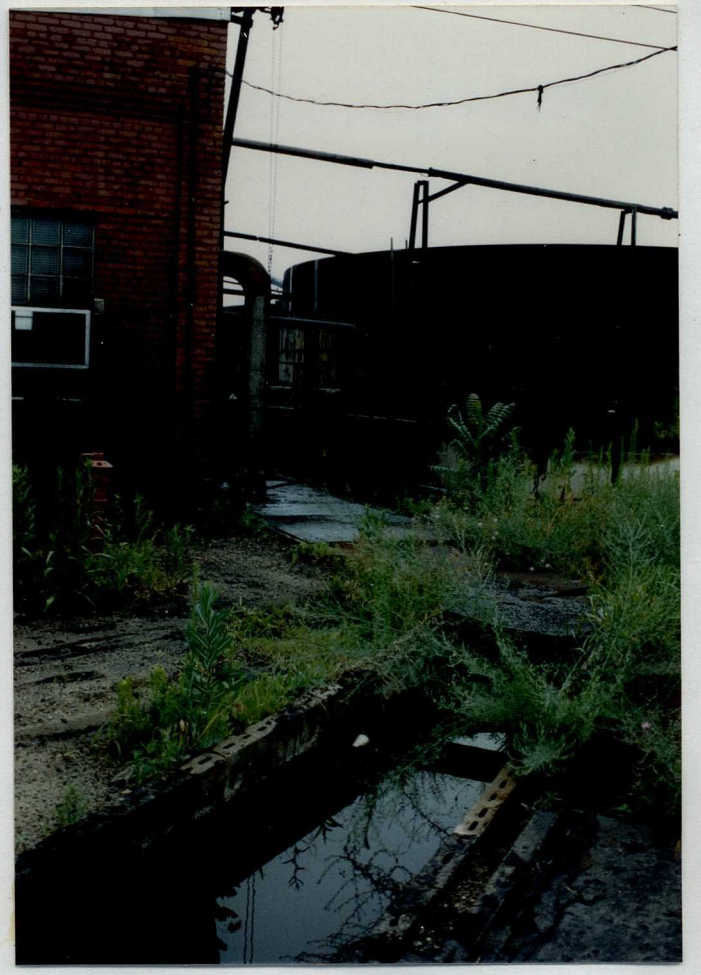
GPO 835-559



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 13
LOCATION: Containment area by tar pump house
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 21 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 14
LOCATION: Coal tar recycling area
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 22 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 15
LOCATION: Diesel fuel Tank

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 23 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 16
LOCATION: Tank near pre-heat unit

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 24 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 17
LOCATION: Coke oven gas condensate sump
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 25 of 54

GPO 835-589

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 18
LOCATION: Flare stack
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 26 of 54

GPO 835-589

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 18
LOCATION: Flare stack

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 27 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 19
LOCATION: Round containment

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 28 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 19
LOCATION: Round containment

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 29 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 20
LOCATION: Drum storage area

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 30 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: SWMU 21
LOCATION: Past secondary containment area
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 31 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 1
LOCATION: Coal unloading area
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 32 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 1
LOCATION: Coal storage area

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melan
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 33 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 1
LOCATION: Coal storage area

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melan
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 34 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 2
LOCATION: Oil spray area of conveyor belt
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 35 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 3
LOCATION: Pre-heat coal fines recovery basin
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 36 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 4
LOCATION: Quench Tower

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 37 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 5
LOCATION: Quench water recycle sump

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 38 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 5
LOCATION: Quench water recycle sump
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00am-5:00pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 39 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 5
LOCATION: Quench water recycle sump drain pad
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am-5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 40 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 5
LOCATION: Quench water recycle sump drain pad.
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 41 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 6
LOCATION: Septic tank
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 42 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 7
LOCATION: Outfall 001

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 43 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 9
LOCATION: Half of tanker car

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 44 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 10
LOCATION: Former pile area

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/___ f:___
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffeto
PHOTO #: 45 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 10
LOCATION: Former pile area

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/___ f:___
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffeto
PHOTO #: 46 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 10
LOCATION: Former pile area

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00am-5:00pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 47 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT: AOC 11
LOCATION: Vehicle maintenance building

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00am-5:00pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 48 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION: Coal storage bins & conveyor system
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melan
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 49 of 54

GPO 835-589

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION: Underground coal conveyor
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melan
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 50 of 54

GPO 835-589

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION: Crusher building

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 51 of 54

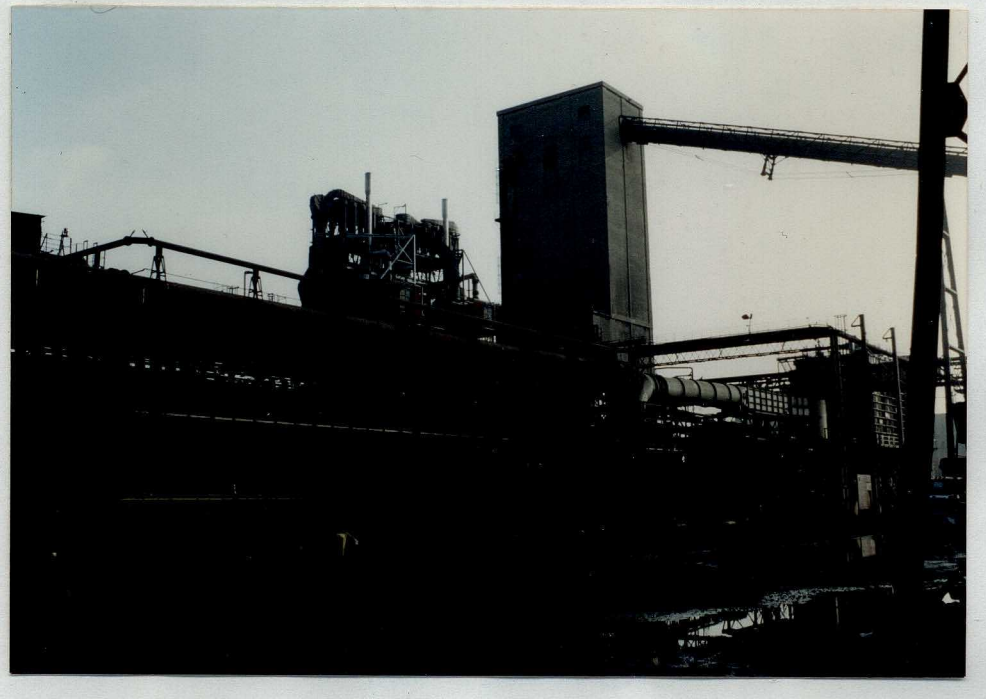
GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION: Coke battery

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 52 of 54

GPO 835-559



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION: Top of coke battery

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 53 of 54

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION:

CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melcer
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: of

GPO 835-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION: Overview of facility from river
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: 54 of 54

GPO 835 - 559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: Detroit Coke VSI
SUBJECT:
LOCATION:
CITY: Detroit COUNTY: Wayne STATE: MI
DATE: 7/15/92 TIME: 8:00 am - 5:00 pm
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) Allen Melas
WITNESS: Gregory A. Rudloff
CAMERA: Freedom
FILM TYPE: K. Gold ASA: 200 T:1/ f:
NEGATIVE LOCATION: U.S. EPA FILE #:
PROCESSED BY: Graffoto
PHOTO #: of

GPO 835 - 559

Appendix D

VSI Notification Letter

JUL 07 1992

HRP-8J

Mr. Carl Curry
Environmental Manager
Detroit Coke Corporation
Box 09229
Detroit, Michigan 48209

Re: Visual Site Inspection
Detroit Coke Corporation
Detroit, Michigan
MID 099 114 704

Dear Mr. Curry:

The Detroit Coke Corporation is deemed to have a RCRA permit under the permits by rule provision for injection wells of 40 CFR 270.60(b). This provision requires compliance with 40 CFR 270.14(d), (Part B information requirements), and 40 CFR 264.101, (Corrective Action for Solid Waste Management Units) which includes performing a RCRA Facility Assessment (RFA).

The 1984 Hazardous and Solid Waste Amendments require corrective action for Solid Waste Management Units (SWMUs) at RCRA facilities. A RCRA Facility Assessment (RFA) will be conducted to determine the extent of corrective action which may be necessary at the Detroit Coke Corporation. The RFA includes a Preliminary Review (PR) of available file information, a visual site inspection (VSI) of the facility, and if necessary, a Sampling Visit.

The PR of this facility has been completed, and included a review of information Detroit Coke has submitted pursuant to the Underground Injection Control permit. The purpose of the VSI is to verify the location of all SWMUs and to make a cursory determination of their condition by visual observation. The VSI supplements and updates data gathered during the PR. During this site visit, no samples will be taken.

Assistance from your personnel may be required in reviewing solid waste management or previous disposal practices. This provides a technical understanding of the present and past waste flows and handling, treatment, storage and disposal practices. Photographs of each SWMU will be taken to document the condition of each unit at the facility and the waste management procedures used.

An introductory meeting has been scheduled for July 14, 1992 at 3:00 p.m. During this meeting, the purpose of the visit, inspection agenda, facility history and operations will be discussed. The VSI has been scheduled for July 15-16, 1992. The United States Environmental Protection Agency inspection personnel will consist of Mr. Greg Rudloff, Mr. Allen Melcer, and Mr. Chad Kincheloe. Your cooperation in admitting and assisting them while on site is appreciated.

If you have any further questions regarding this matter, please contact Mr. Greg Rudloff of my staff, at (312) 886-0455.

Sincerely,

ORIGINAL SIGNED BY
RICHARD T. TRAUB

Richard Traub, Chief
Michigan Section
RCRA Permitting Branch

cc: Steve Buda, MDNR
Larry Aubuchon, MDNR
Allen Melcer, U.S. EPA

SIGNATURE/INITIAL CONCURRENCE REQUESTED - RCRA PERMITTING BRANCH (RPB)										
TYPIS	AUTH.	ILS CHIEF	INS CHIEF	MIS CHIEF	MN/WI CHIEF	OHS CHIEF	SWS CHIEF	RPB CHIEF	RCRA ASOC.DR	WASTE MGMT. DIV.DIRECTOR
SD	RT									

DETROIT COKE CORPORATION
7819 WEST JEFFERSON AVE.
DETROIT, MICHIGAN 48209

313-842-6222

PRELIMINARY RCRA FACILITY ASSESSMENT

SEPTEMBER 1991

704-2

DETROIT COKE COKE CORPORATION

I. PURPOSE

II. METHODOLOGY

III. PRELIMINARY ASSESSMENT RESULTS

A. PLANT HISTORY

B. PROCESS DESCRIPTION

C. DESCRIPTION OF POTENTIAL SWMU's

1. UNIT TYPE

2. UNIT DESCRIPTION

3. UNIT HISTORY

4. MATERIAL DESCRIPTION

D. GEOLOGY and HYDROGEOLGY OF THE AREA

E. POTENTIAL ROUTES OF MIGRATION

F. SECURITY

IV. DISCUSSION

V. APPENDIX

A. TOPOGRAPHICAL MAP (1" = 80')

1. LOCATION OF POTENTIAL UNITS

B. SECONDARY CONTAINMENT DRAWINGS

C. DEEP WELL SCHEMATIC DRAWINGS

D. 1990 INJECTION VOLUME

E. TCLP RESULTS ON INJECTED WASTES

F. RCRA 3007 REPORT (1984)

G. 1989 RCRA INSPECTION REPORT

H. GENERAL PLANT FLOW DIAGRAMS

I. SARA FORM R SUMMARY FOR 1990

1. PURPOSE

The purpose of the RCRA Facility Assessment is to identify and gather information on releases at Detroit Coke Corporation; evaluate solid waste management units and other areas of concern for releases to air, soil, surface water and groundwater; make preliminary determinations regarding areas of concern and the need for further actions; and screen from further investigation those SWMUs which do not pose a threat to human health and environment.

II. METHODOLOGY

The preliminary review focuses primarily on evaluating existing information, such as inspection reports, permits, historical data, drawings and visual inspections. A brief history of the plant is given, the coke making process described and the preliminary assessment performed.

The plant history is brief but, covers previous ownership. The coke making process is described as it existed under the ownership of Detroit Coke Corporation. The preliminary assessment included a topographical map, a description of the potential SWMU's, area geology and hydrogeology.

A topographical map (1" = 80 ft.) was obtained and used during the assessment. A visual inspection was made to locate potential solid waste management units and areas of concern. A description of each potential unit or area was made, characterizing the units as the following:

1. Unit Types
    a. Dumpster
    b. Pile
    c. Diked Area
    d. Drum
    e. Tank
    f. Disposal Well

2. Material Categorization
    a. Metal - this would include drums, or scrap metal
    b. Paper - packaging, cardboard, or office paper
    c. Rubber - tires, rubber belts, or hoses
    d. Wood - pallets, railroad ties, or brush
    e. Construction Debris - brick or concrete, pipe, plywood, or fiberglass insulation

f. Soils - Stones, rock, coke, or topsoil

g. Liquids - Tar, Rain water, Oil, or waste weak ammonia liquor.

The geology and hydrogeology of the area was used to assist in assessing the route of migration of any release or potential release to the environment.

III. PRELIMINARY ASSESSMENT RESULTS

A. Plant History

Detroit Coke Corporation has operated a coking plant at this location since January 1980. Prior to that date, Allied Chemical Corporation operated the plant.

The #4 battery located on the property was preceded by three other coke batteries, which were torn down prior to 1980. In the early 1910's, the first battery of ovens was constructed followed by the other three. The #4 battery was constructed 1968.

B. Process Description

Coking Process

The Detroit Coke Corporation plant consists of one coke oven battery, built in 1968. The battery contains 70 ovens of the Wilputte hairpin flue design. Each oven is 47' long, 16 1/2" high, with an average width of 18", and capable of coking 27 1/2 tons of wet coal.

Coal is received primarily by rail, stored and then moved to a receiving hopper and conveyed from there to one of seven mixing bins. Measured volumes of three grades of coal are carefully blended and then pulverized in one of two hammer mills to a fineness of 90% through a 1/8" screen. The pulverized coal is conveyed to the battery coal bins having capacity for approximately 1,250 tons of coal. Wet coal is charged to the ovens by a larry car on top of the battery.

The charged coal remains in the oven for a predetermined period of time at 1800°F - 2100°F. The coking process is actually a distillation process in the absence of air. As the volatile matter is driven off, the coal becomes plastic at temperatures of 600°F - 1000°F and, as the mass resolidifies between

1000°F - 1300°F, coke is formed. The process is one that moves progressively from the wall to the center of the oven. When the two plastic zones meet in the center of the oven, the coking process is complete. During the first stage of the coking process, moisture is driven off, followed by condensibles, and relatively high BTU coal gas constituents. The coke oven gas generated is cooled by the use of water sprays in the By-Product area. This contact cooling water is reused after it has been cooled by a non contact cooling stream. This non contact cooling water is discharged to the Detroit River, and is as clean as when it entered the plant from the Detroit River. In addition, there is often a reduction in suspended solids in the non contact cooling water. The contact cooling water goes through three tanks before going through a series of one micron filter bags. This water is then pumped by one of four pumps into the deepwell(s). The volume of water injected essentially approximates the amount of moisture driven off the coal during the first stage of the coking process.

By-Products Process at Detroit Coke

~21,000,000 @ 70

At 93 ovens a day 28,132,000 cubic feet of coke oven gas would be expected to be produced in a 24 hour period, at a coking rate of 1" per hour. Naphthalene is not extracted at the facility. No light oil or sodium phenolate is recovered.

The coke oven gas is cooled in two closed vessel, direct contact, coolers. A three stage centrifugal turbine driven exhauster pulls the gas away from the battery through these coolers and sends it through an ammonia scrubber. None of these coolers are open to the atmosphere. The gas then goes through electrostatic precipitators to the underfiring system of the

battery, to a customer, to boilers and/or a flare stack.

Non contact cooling water removes the heat from the circulating liquor in the aforementioned coolers, by the utilization of spiral heat exchangers. The excess weak aqueous ammoniacal liquor goes to the #1 weak liquor storage tank, #2 weak liquor, and #3 weak liquor tank, in series. The effluent from these tanks is then sent to an underground injection control system.

Coal tar generated, flows through the suction gas main to a downcomer prior to the first cooler and goes into two flushing liquor decanters. Here, the tar is separated from the flushing liquor by gravity and is decanted off. This tar is then transferred to #3 tar decanter for further decantation. The finished product is transferred to a tar storage tank and then sold.

The primary constituents associated with the process are: cyanides, phenolics, ammonia, naphthalene and benzene. These constituents are identified in the wastewaters deepwelled. With regards to listed hazardous wastes, Detroit Coke produced coal tar decanter material, which U.S.E.P.A. has identified as K087. The material has always been recycled to the coke ovens by Detroit Coke and has never been discarded. Another material, ammonia lime distillation sludge, has been listed by U.S.E.P.A. but was never generated by Detroit Coke.

C. Description of Potential SWMU'S or Areas of Concern

1. Topographical Map (1" = 80')

a. Location of potential SWMU's (see attached map)

b. List of Areas

1) WOOD, RUBBER, METAL, COKE PILE

2) COKE, CONCRETE PILE

3) RUBBER TIRES, BELTING, COKE PILE

4) CONCRETE, STONE PILE

5) BRICK PILE

6) BRICK PILE

7) RUBBER TIRES, RUBBER HOSES, COKE PILE

8) WOOD PILE

9) WOOD, RAILROAD TIES PILE

10) WOOD PILE

11) WOOD PALETS PILE

12) METAL CONTAINER BOX WITH DESRI

13) APPROX. 15 METAL DOOR FRAMES PILE

14) RECYCLING AREA FOR COAL TAR ON CONCRETE PAD

15) DIKED AREA FOR BULK DENSITY OIL

16) METAL DRUMS

17) COAL TAR DECANTER CONTAINER

18) CONCRETE DIKED AREA CONTAINING RAINWATER / OIL

19) APPROX. 50 STANDPIPE ASSEM. PARTS PILE

20) APPROX. 20 STANDPIPE ASSEM. PARTS PILE

21) SCRAP STEEL PILE

22) SCRAP STEEL CONTAINER BOX

23) QUENCH TANK RECYCLING AREA

24) APPROX. 70 METAL DRUMS ON DIKE AREA

25) DEBRI PILE (COKE)

26) RUBBER BELT PILE

27) TAR TANK DIKE AREA

28) CONTAINER BOX

29) AMMONIA LIQUOR STORAGE TANK

30) " " "

31) " " "

32) # 1 TAR DECANTER TANK

33) # 2 TAR DECANTER TANK

34) # 3 TAR DECANTER TANK

C. Description of potential SWMU's

-Unit Type: Dumpsters

-Unit Construction: Metal

-Unit Location: Areas 12, 22, & 28.

Material Description: There are three dumpster type boxes located on the property, which are potential SWMUs. The materials contained in these boxes are recyclable metal, or papertype wastes. These types of containers have been used for years at the plant. No evidence of migration of hazardous wastes.

-Unit Type: Pile

-Unit Construction: Open Pile

-Unit Location: Areas 1,2,3,4,5,6,7,8,9,10,11,13,19,20, 21,25,& 26.

Material Description: There are seventeen piles located on the property, which are potential SWMUs.. These piles contain wood, usable coke, rubber tires, rubber belting, rubber hoses, railroad ties, recyclable metal and brick. History of these piles is not clear. No evidence of the migration of hazardous wastes.

-Unit Type: Diked Areas

-Unit Construction: Concrete

-Unit Location: Areas 14,15,18,23,24,& 27.

Material Description: There are five diked areas located on the property, which are potential SWMUs, and contain liquids.

Area 14 is where coal tar decanter material is mixed with coal for recycling purposes. This area was also used for recovering coal from a coal preheat system in the late 1970's. Some areas on the side of the containment area appear to be discolored and this would warrant further investigation.

Area 15 is where a 5000 gallon tank of oil is stored for use as density control and oil and rainwater has accumulated inside this dike. This tank was put inservice in the mid 1980's. Spillage of oil may have occurred around the perimeter of this dike, near the loading area for the tank.

Area 18 is a diked area where a tank previously existed and contains contaminated rainwater. This diked area was used as secondary containment for a tank used prior to 1980. This area is the byproducts area and near Areas 32, 33, and 34. These areas have spots of tar and would warrant further investigation.

Area 23 is a diked pad area where breeze is recycled. Breeze is used as a product and not a hazardous waste. This area does not appear to represent an area for further investigation.

Area 24 is the oil drum storage area and contains empty drums and full drums. The routine handling of oil containers occurred on this secondary containment area. The side of this concrete containment structure has some discoloration and may warrant further investigation.

Area 27 is the secondary containment area for tar storage tanks (the # 10 tank was used by Detroit Coke to store coal tar) and there is rainwater and some coal tar within this diked area. This area warrants further investigation.

-Unit Type: Drums

-Unit Construction: Metal

-Unit Location: Areas 16 & 24

Material Description: The oil drum area as previously mentioned contains contains drums (area 24); Area 16 is located west of the by products building and six drums were located and contained scrap metal or were empty.

-Unit Type: Tanks

-Unit Construction: Metal

-Unit Location: Areas 29, 30, 31, 32, 33, & 34.

Material Description: There are three storage tanks on the property, which have contained weak ammonia liquor destined to to be either reused or disposed of via permitted underground injection wells. The Areas 29 & 30 are #2 and #3 tanks, which are are each 180,000 gallon capacity tanks. These tanks have a common secondary containment concrete structure. The #3 tank is Area #31 and is a 180,000 gallon tank. This tank has a concrete secondary containment structure, also.
Area 32, 33, & 34 are the tar decanter tank areas where off- spec coal tar is decanted and placed in a mobile container for delivery to Area 14 during the recycling process.

These areas are near the by-products area and the entire area around the by-products would warrant further investigation.

-Unit Type: Injection Wells

-Unit Construction: Steel

-Unit Location: Area is identified on the map provided.

Material Description: The permitted injection wells inject a characteristic waste, waste weak ammonia liquor, which is a characteristically hazardous waste for TCLP. The #1 well has been in use since the late 1960's; the #2 well has been in use since the mid 1970's; and the #3 well has been in use since the late 1970's. Mechanical integrity tests are performed annually on each well. These areas appear satisfactory and warrant no further action.

D. Geology

In the vicinity of the Detroit Coke plant, the surficial geologic sediments consists of glacial deposits of lacustrine and delta sand; lacustrine clay; and lacustrine and delta loam. These sediments were deposited during the Wisconsin stage of the Pleistocene glaciation. The glacial features are related to the advance and withdrawal of the Erie-Huron ice lobe.

The subsurface geology is given in the table, which was taken from drillers logs from the #3 injection well. The most favorable receiving zone for injection activities in this region is the Eau Clare and Mt. Simon Sandstone. This injection interval is overlain by thick layers of limestone, dolimite, shale, anhydrite and salt which act to confine the injected waste fluids and prevent vertical migration. The Mt. Simon Sandstone Formations underlain by Precambrian granite basement rock. The Precambrian basement is an effective lower confining layer because it has virtually no permeability.

FORMATION TOPS, DETROIT COKE CORPORATION
WASTE DISPOSAL WELL NO. 3

GROUP	FORMATION TOP	MEMBER	DEPTH BELOW GROUND LEVEL
	Glacial Drift		0'
	Dundee Limestone		105'
Detroit River	Detroit River Dolomite		178'
Detroit River	Sylvania Sandstone		480'
	Bois Blanc		520'
Bass Islands	Undifferentiated		608'
Salina	Undifferentiated		848'
Niagara	Niagaran		1847'
Cataract	Cabot Head Shale		2174'
Cataract	Maintoulin Dolomite		2253'
Richmond	Undifferentiated		2299'
Trenton & Black River	Undifferentiated		2898'
Lake Superior	Munising	Eau Claire	3771'
		Mt. Simon	4045'
	Pre-Cambrian		4125'
	Granite		

The Eau Claire and Mt. Simon sandstones are utilized as a preferred disposal reservoir. They are the only permitted Class I injection interval in Wayne County. These sandstones are permitted for wastewater injection by the E.P.A. because of their uniformity, moderate permeability, porosity and lack of complex geologic structure. In addition, the formation fluids exhibit Total Dissolved Solids values of over forty times the 10,000 TDS limit for an Underground Source of Drinking Water (USDW) set by U.S.E.P.A. regulations.

The lowermost USDW in Wayne County, which is capable of yielding usable quantities of groundwater with a Total Dissolved Solids Content or less than 10,000 mg/l is approximately located at the base of the Devonian Bedrock (650'-900'). In the vicinity of the Detroit Coke Plant, the Sylvanian Sandstone is probably the lowermost rock unit capable of falling below the 10,000 TDS limitation. In the #3 injection well, the Sylvanian Sandstone was encountered at 480 feet and is approximately 40'thick.

E. Potential Routes of Migration

Pollutant migration pathways evaluated are groundwater, surface water, surface water, air, soils and subsurface gas. The importance of each of these pathways is examined below.

1. Groundwater - The facility is on a discharge area for groundwater, not recharge area. This would eliminate the possibility of groundwater contamination, other than the mismanagement of the injection well system. The aquifer closest to the surface is not a Underground Source of Drinking Water, according to the Michigan Geological Survey Division.

2. Surface Water - There are two permitted outfalls on the NPDES permit. One is a discharge of noncontact cooling water to the Detroit River and the other is a stormwater discharge to the Rouge River from a parking lot. The intakes for drinking water for the Metro area is upstream from the outfalls and the Detroit Coke property.

3. Air - The migration route through air is considered to be minimal. Detroit Coke does not manufacture volatile solvent type compounds and the migration of volatile components from an identified SWMU is not considered to be significant.

4. Soils - The soil route of migration would be the primary route for contaminant transport, if contaminants have been released.

D. Security

Detroit Coke minimizes the unknowing entry of persons and/or livestock by maintaining a 24-hr surveillance system via security personnel, who continuously monitor and control entry onto the plant site. A fence in good repair is maintained on the west, east and north sections of the property. The south end of the plant is bounded by the Detroit and Rouge Rivers.

The security personnel routinely travel the plant to monitor assure security. Cameras are available for monitoring plant activity.

IV. DISCUSSION

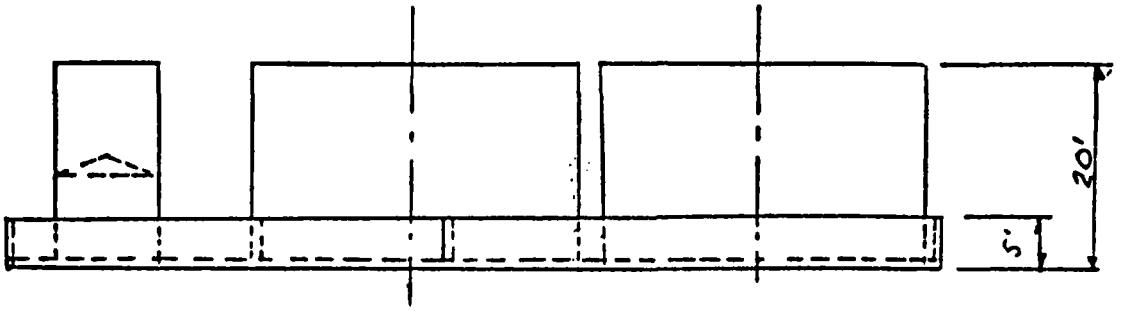
The RCRA Facility Assessment identified a number of potential SWMU's and areas which may be of concern. There were many of the potential units which pose no threat to the environment. The areas which can be screened from further investigated are the areas /units 1,2,3,4,5,6,7,8,9,10,11,12,13,16,19,20,21,22,23,25,26,28 and 32.

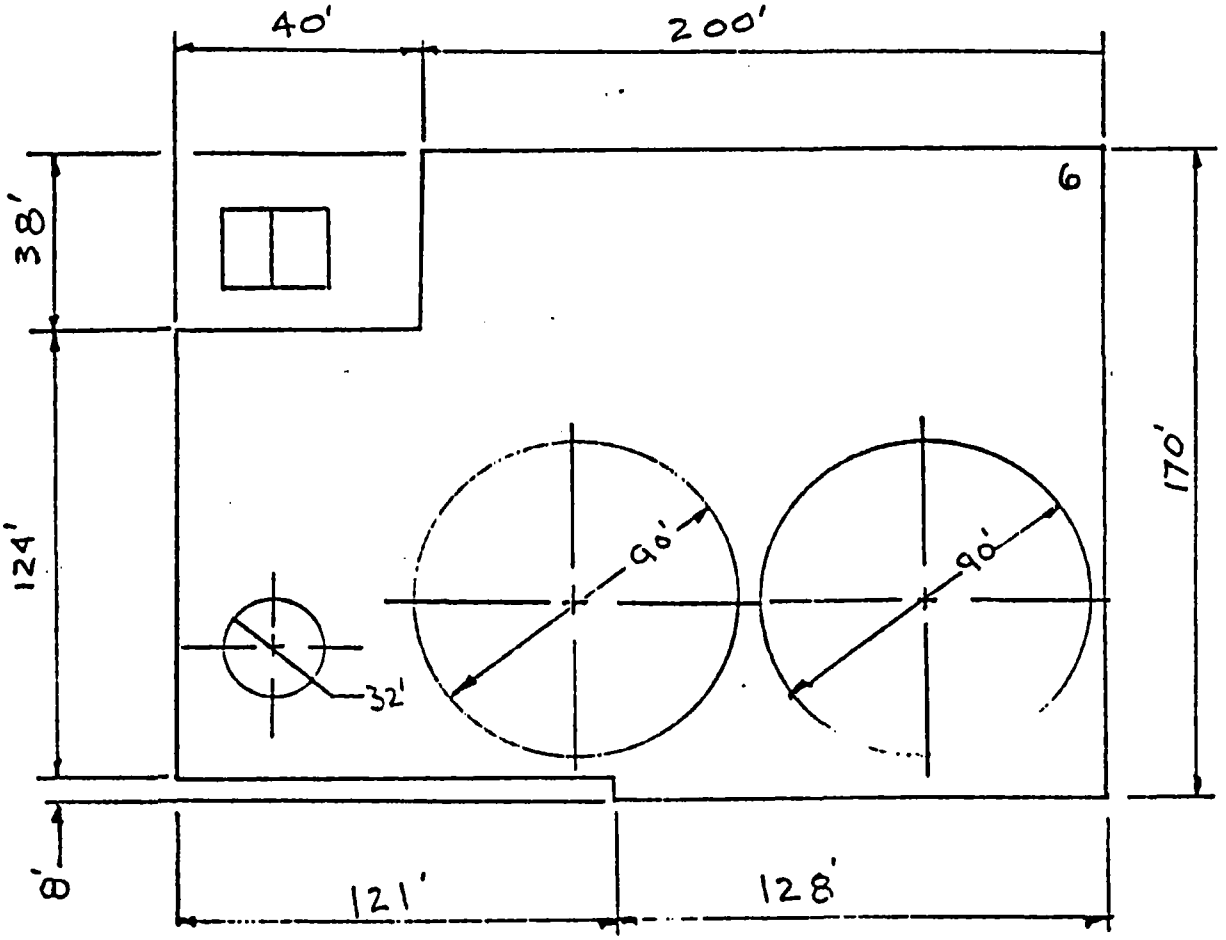
The remaining areas may need futher investigation:
area 14 - a concrete structure, where coal tar was mixed for recycling;
area 15 - a containment structure for bulk density oil;
areas 17,18,30,31,32,33,34 can be group as one area for further study because of similar material has been handled and their closeness to one another;
area 24 - a concrete containment area for oil storage;
and area 27 - a concrete containment area for coal tar.
This is a total of five "areas" which may warrant further investigation.

The primary route of migration of contaminants has been found to be soil. The groundwater route has been ruled out primarily because the area at Detroit Coke is a discharge area for groundwater and not a recharge area.

APPENDIX A

APPENDIX B





Attachment #6
Tar Storage

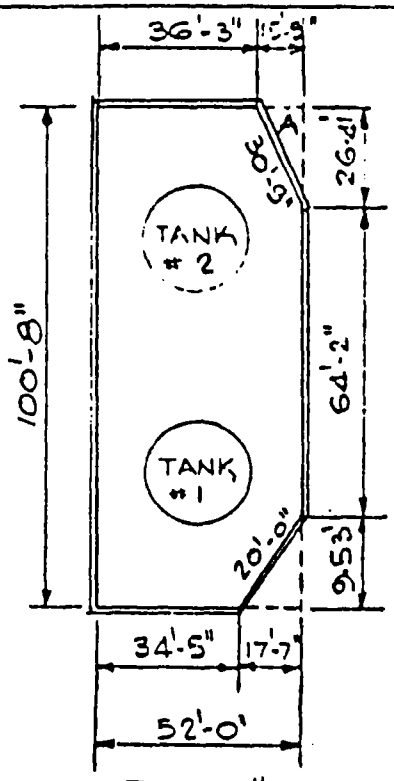
Clayton Environmental Consultants, Inc., 25711 Southfield Rd. Southfield, MI

TITLE: SEMET-SOLVAY DIV. - COKE PLANT - DIKE 6		
JOB NO. 7238-778	DATE: 12-20-78	Dwg. No. 78-136

Made by: ASK Chkd. by: WCG Project No. 76068

Date: 7-12-77 Date: 7-30-77 ACC. BY PRODUCTS P.

Title: DIKE CAPACITY Sheet 6 of 6



DIKE #1

To find area of DIKE #1

AREA "A" = $\frac{1}{2}$ · 15.75 × 26.41

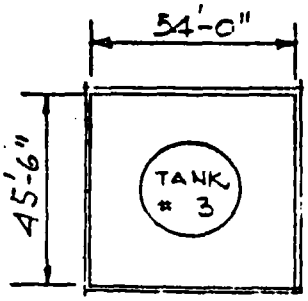
= 207.9 ft²

AREA "B" = $\frac{1}{2}$ · 9.53 × 17.58

= 83.76 ft²

Total area of Dike = 52' × 100.66 - 207.9 - 83.76

= 4942.66 ft².



DIKE #3

To find area of Dike #3.

Area = 54' × 45.5'

= 2457 ft²

Attachment #4

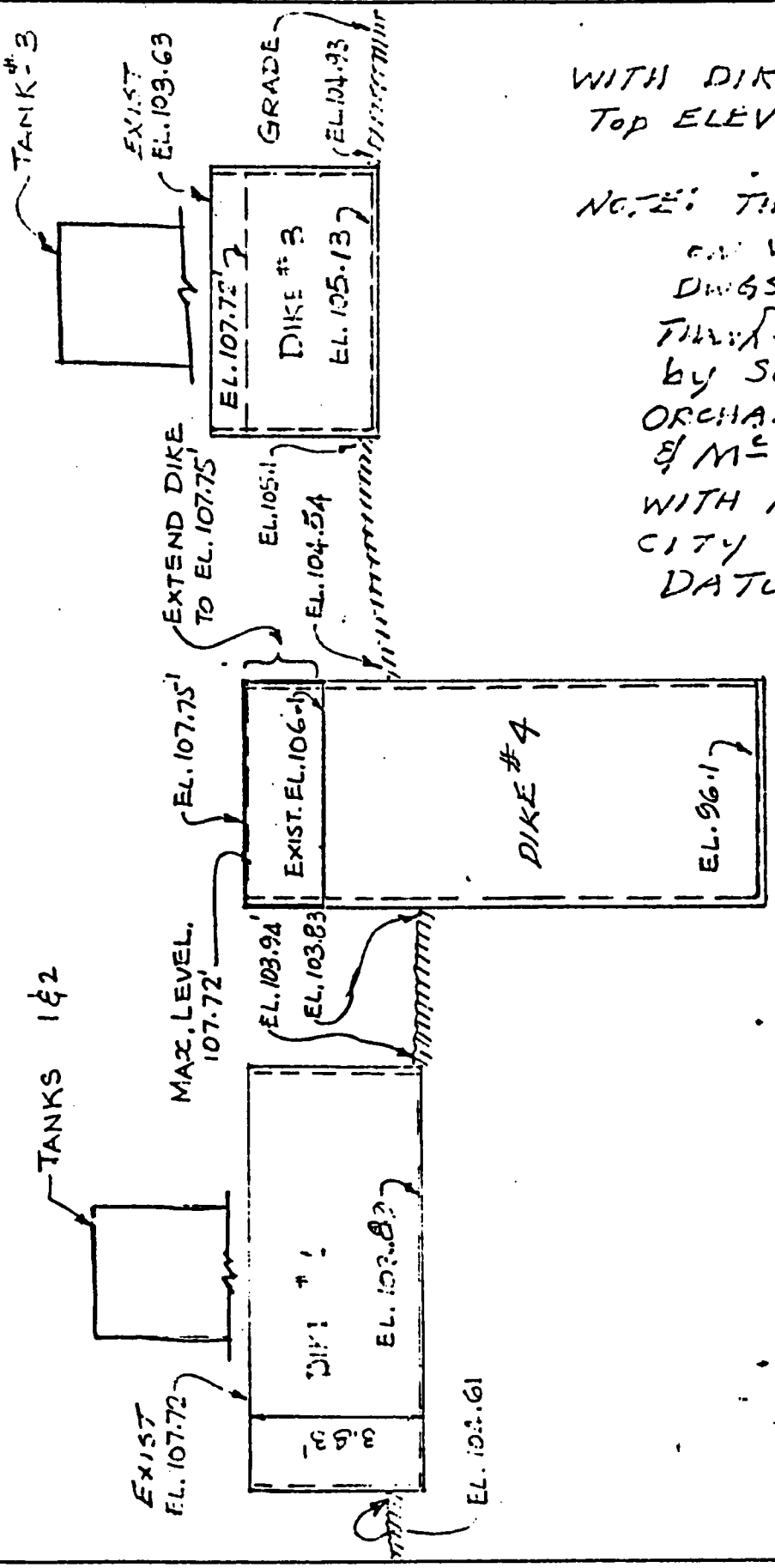
Ammonia Liquor Tanks

Giffels Associates, Inc.
Architects Engineers Planners

Made by: _____ Chkd. by: W.C.G Project No. 76042

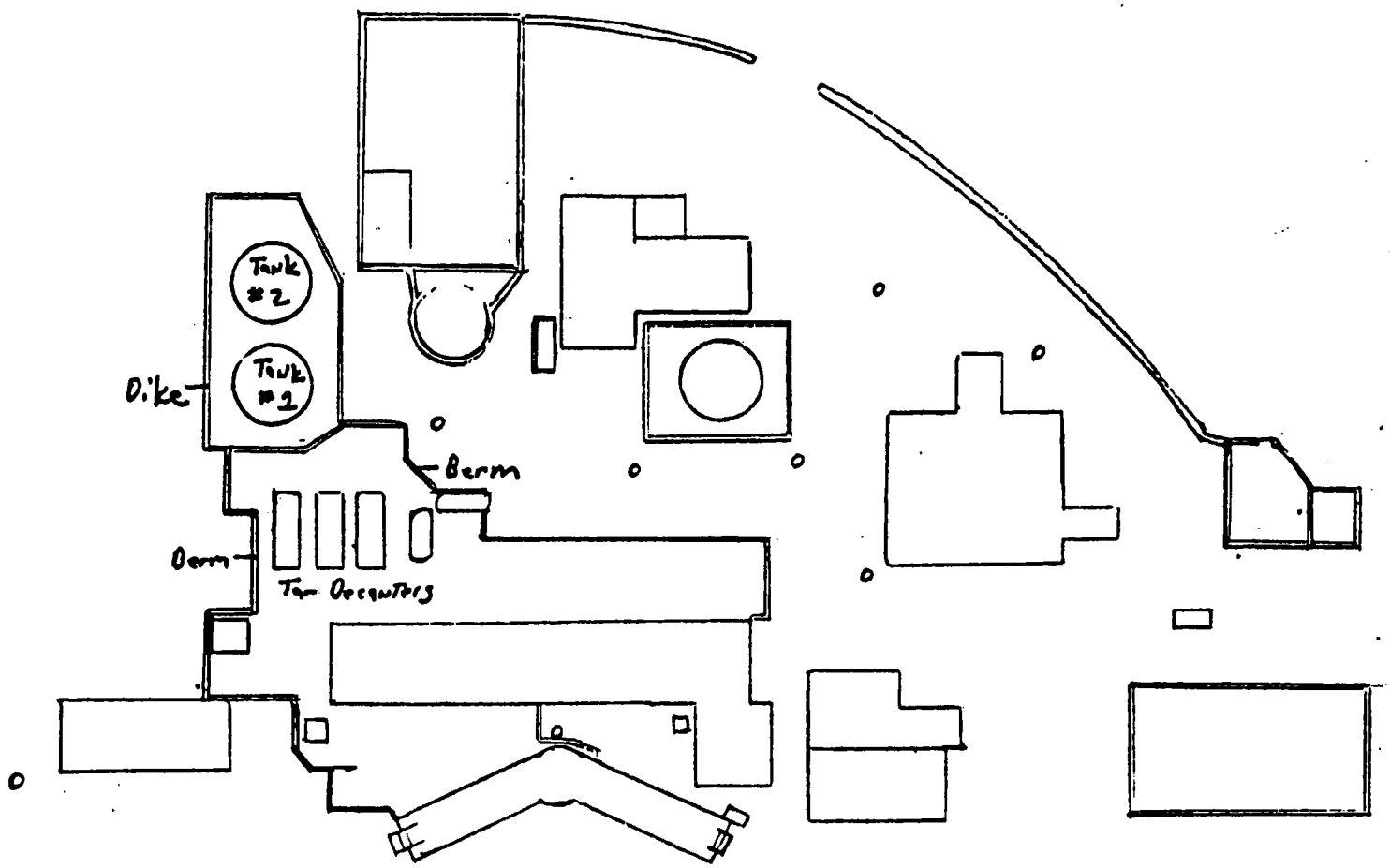
Date: 7-16-77 Date: 7-30-77 ACC By-Products Plant

Title: DIKE ELEVATIONS Sheet 1 of 6



WITH DIKE #4 AT, TOP ELEV 107.75

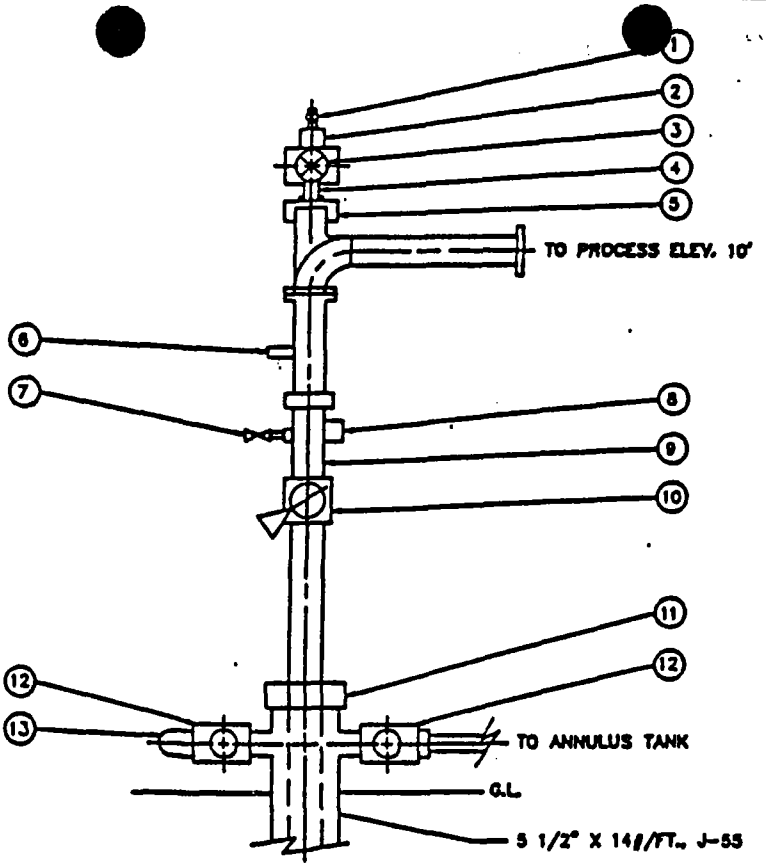
NOTE: THE ELEV SHOWN ON WRIGHTS DIKE DWGS ARE 6" HIGHER THAN THESE ELEV ESTABLISHED by SURVEY OF ORCHARD, PAPKE, HILTZ & McCLIMENT, INC. WITH REFERENCE TO CITY OF DETROIT DATUM.



Attachment 5

By-Products

APPENDIX C

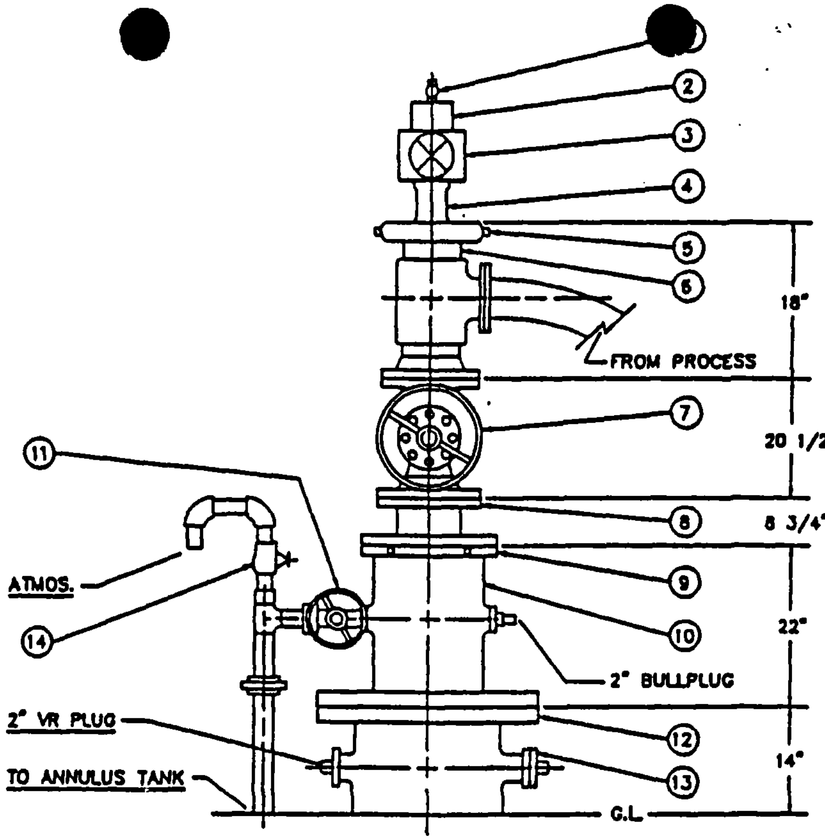


NOT TO SCALE

13	2" BULLPLUG
12	2" VALVE
11	SMI 5 1/2" X 2 7/8" EUE CASING HEAD TYPE T-2
10	2 7/8" EUE BARTON VALVE 2000 PSI
9	2 7/8" EUE PUMPING T
8	2" BULLPLUG
7	1" NIPPLE & 2000 LB. GAUGE
6	1" BULLPLUG
5	3", 1500 PSI ANSI FLANGE W/ 2 7/8", EUE - 8RD COUPLING LOOKING UP
4	2 7/8" X 2 7/8" EUE - 8RD NIPPLE
3	2 7/8", 2000 PSI ORBIT (SWAB) VALVE W/ 2 7/8", EUE - 8RD THREADS
2	2 7/8" EUE - 8RD TAPPED (1/2") BULLPLUG (2000 PSI)
1	1/2", 2000 PSI NEEDLE VALVE
DET	WELLHEAD DESCRIPTION

KEN E. DAVIS ASSOCIATES

DETROIT COKE CORPORATION
WASTE DISPOSAL WELL NO. 1
WELL SCHEMATIC
FIGURE 3.1.4-1



14	1" VALVE
13	2 1/16", 5000 PSI WP COMPANION FLANGE W/ 2" BULLPLUG
12	9 5/8" SOW X 11", 3000 PSI CASING HEAD W/ 2 - 2 1/16", 5000 PSI WP FLANGED OUTLETS
11	2 1/16", 3000 PSI WP FLANGED GATE VALVE
10	7 1/16", 3000 PSI WP X 11", 3000 PSI WP CASING SPOOL W/ 2 - 2 1/16", 5000 PSI WP FLANGED OUTLETS
9	7 1/16", 3000 PSI WP TUBING HANGER IN TOP FLANGE
8	4 1/16", 3000 PSI WP X 7 1/16", 3000 PSI WP ADAPTER SPOOL
7	CAMERON 4 1/16", 3000 PSI WP X 4 1/16" 3000 PSI WP GATE VALVE
6	FLOW TEE W/ THREADS CUT INTERNALLY TO ACCEPT 4 1/2" 8RD PIN 4 1/16", 3000 PSI WP BOTTOM FLANGE
5	TREE CAP W/ BLANKING PLUG BORED 2 7/8" EUE - 8RD THREADS
4	2 7/8" EUE X 2 7/8" EUE - 8RD NIPPLE
3	2 7/8", 2000 PSI WP ORBIT (SWAB) VALVE W/ 2 7/8", EUE - 8RD THREADS
2	2 7/8", EUE - 8RD TAPPED (1/2") BULLPLUG
1	1/2", 2000 PSI NEEDLE VALVE
DET.	CAMERON WELLHEAD DESCRIPTION

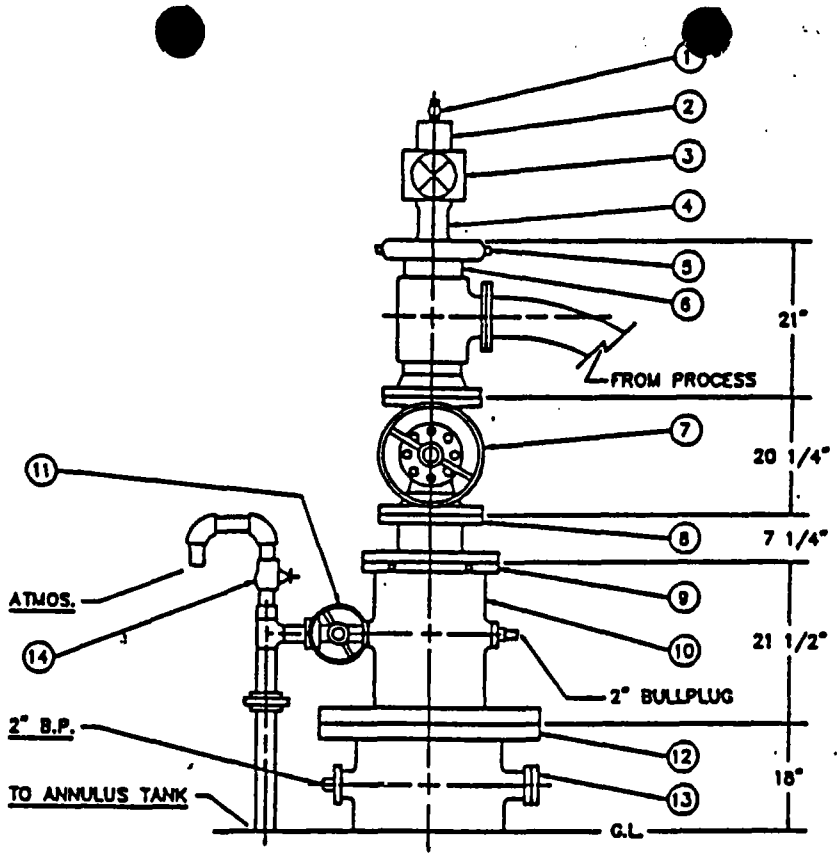
KEN E. DAVIS ASSOCIATES

DETROIT, COKE CORPORATION
WASTE DISPOSAL WELL #2

WELLHEAD SCHEMATIC

FIGURE 3.1.4-2

DATE: 12/15/87		JOB NO.: 30-1010
		DWG. NO.: 30-1010-1



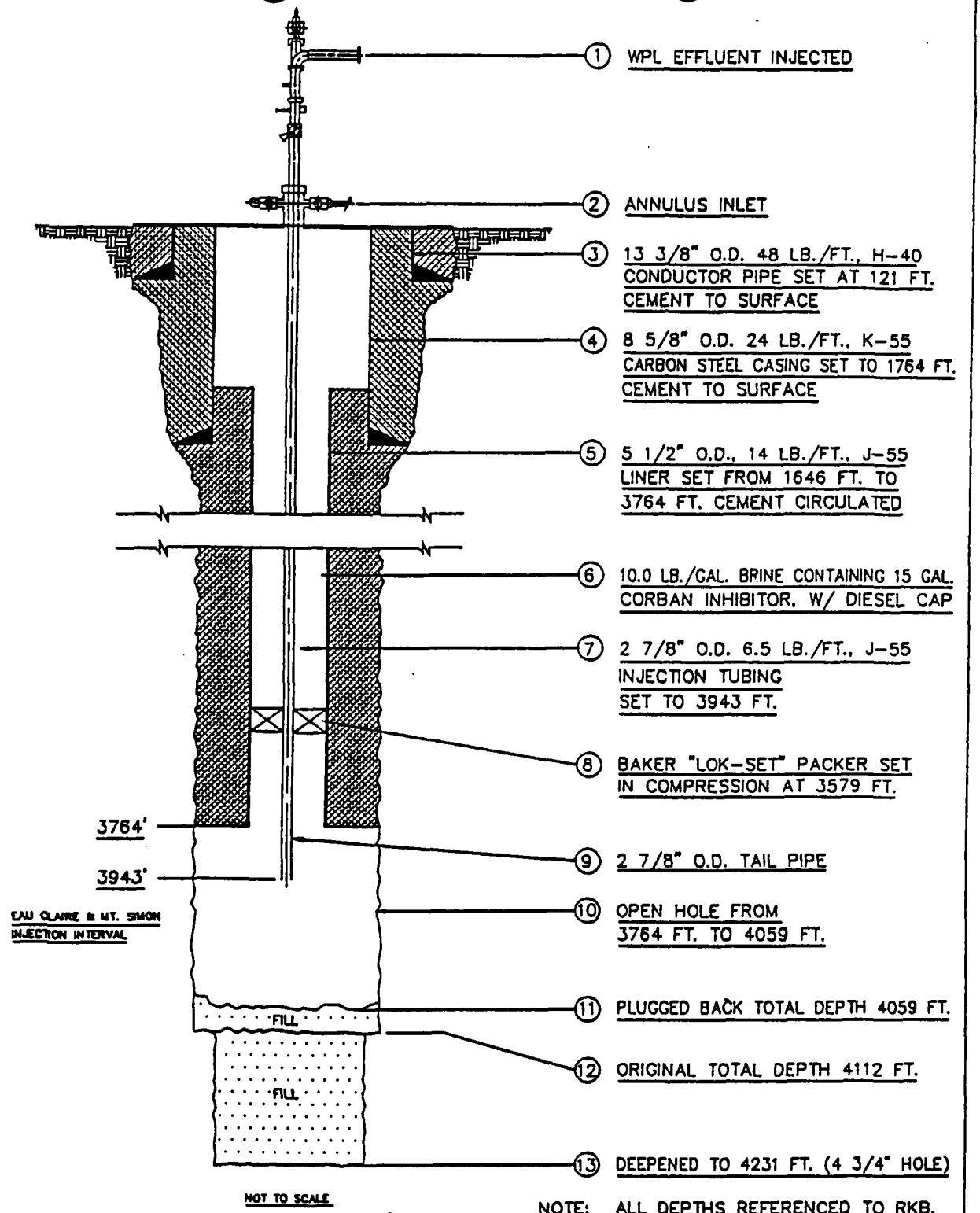
14	1" VALVE
13	2 1/16", 5000 PSI WP BLIND FLANGE
12	9 5/8" SOW X 11", 3000 PSI CASING HEAD W/ 2 - 2 1/16" 5000 PSI FLANGED OUTLETS
11	2 1/16", 3000 PSI WP FLANGED GATE VALVE
10	7 1/16", 3000 PSI WP X 11", 3000 PSI WP CASING SPOOL W/ 2 - 2 1/16", 5000 PSI WP FLANGED OUTLETS
9	7 1/16", 3000 PSI WP TUBING HANGER IN TOP FLANGE
8	4 1/16", 3000 PSI WP X 7 1/16", 3000 PSI WP ADAPTER SPOOL
7	OCT 4 1/16", 3000 PSI WP X 4 1/16", 3000 PSI WP GATE VALVE
6	FLOW TEE 4 1/16", 3000 PSI WP BOTTOM FLANGE
5	TREE CAP W/ BLANKING PLUG BORED 2 7/8" EUE - 8RD THREADS
4	2 7/8" EUE - 8RD X 2 7/8" EUE 8RD NIPPLE
3	2 7/8", 2000 PSI WP ORBIT (SWAB) VALVE W/ 2 7/8", EUE - 8RD THREADS
2	2 7/8", EUE - 8RD TAPPED (1/2") BULLPLUG
1	1/2", 2000 PSI NEEDLE VALVE
DET.	FMC - OCT WELLHEAD DESCRIPTION

KED Ken E. Davis Associates

DETROIT COKE CORPORATION
WASTE DISPOSAL WELL #3

WELLHEAD SCHEMATIC

FIGURE 3.1.4-3



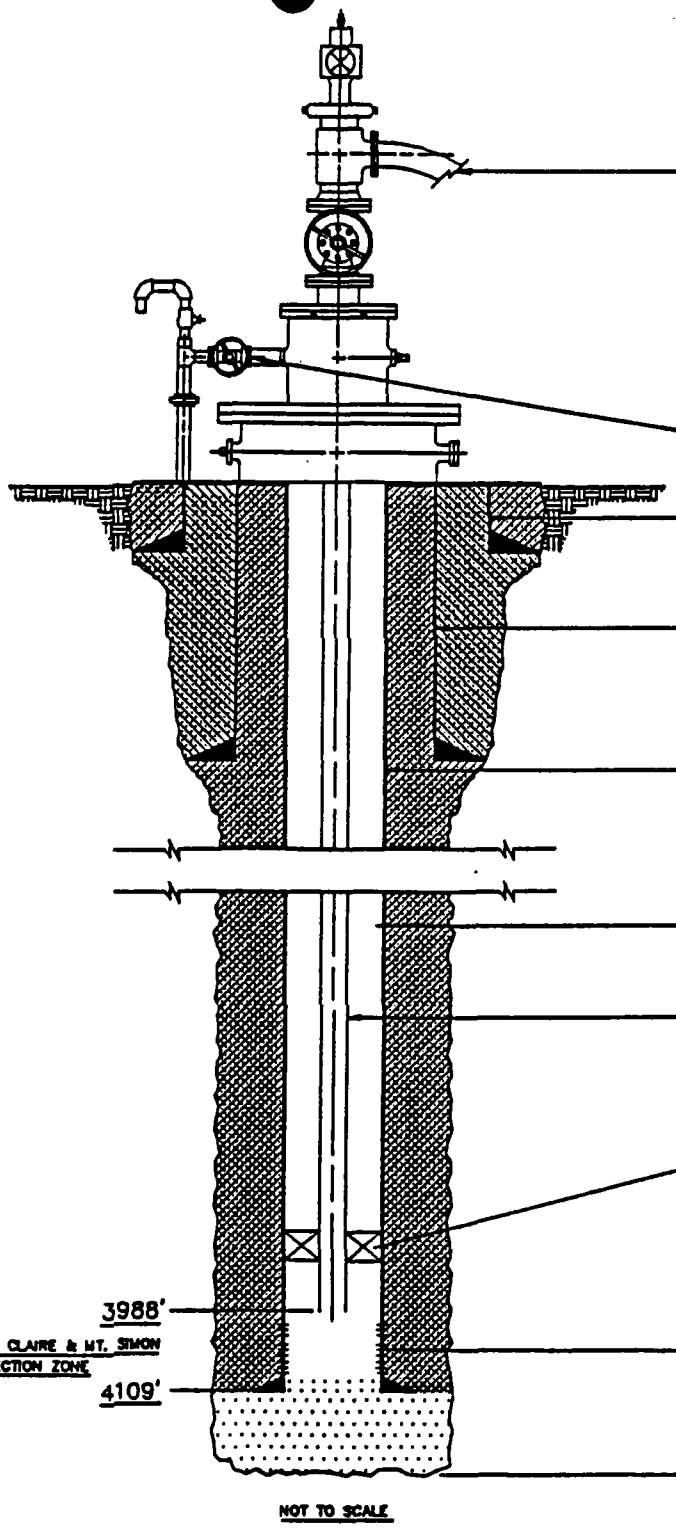
NOTE: ALL DEPTHS REFERENCED TO RKB. DATA FROM LOGS RAN FROM GL HAVE BEEN CORRECTED TO KB. KB = 13' AGL

KEN E. DAVIS ASSOCIATES

DETROIT COKE CORPORATION
DETROIT, MICHIGAN

WELL SCHEMATIC
WASTE DISPOSAL WELL NO. 1
FIGURE 3.1.1-1

DATE: 12/11/87	CHECKED BY: R. F. B.	JOB NO.: 30-1010
DRAWN BY: D. T.	APPROVED BY: R. F. B.	DWG. NO.: 30-1010-4



NOT TO SCALE

1. WPL EFFLUENT INJECTED
2. ANNULUS INLET
3. 13 3/8" O.D. 48 LB./FT, H-40 CONDUCTOR PIPE SET AT 96 FT. CEMENT TO SURFACE
4. 9 5/8" O.D. 32 LB./FT., H-40 CARBON STEEL CASING SET TO 631 FT. CEMENT TO SURFACE
5. 7" O.D. 23 LB./FT., K-55 CARBON STEEL CASING SET TO 4109 FT. CEMENT TO SURFACE
6. ANNULUS FLUID WITH DIESEL CAP
7. 4 1/2" O.D. 12.6 OR 12.75, J-55 INJECTION TUBING SET TO 3988± FT.
8. BAKER AD-1 PACKER SET AT 3945 FT.
9. PERFORATIONS FROM 4031 FT. TO 4080 FT.
10. TOTAL DEPTH AT 4112'

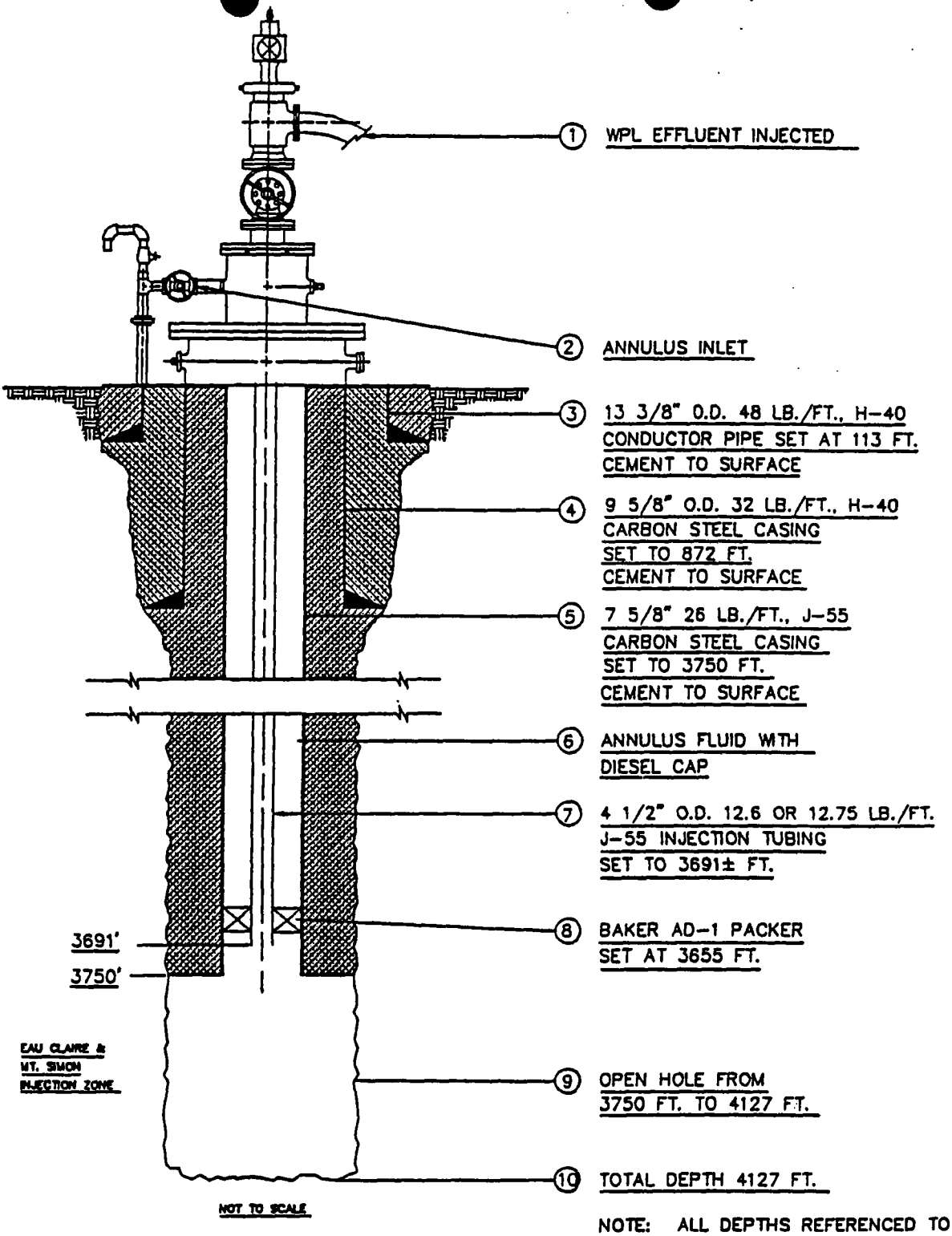
NOTE: ALL DEPTHS REFERENCED TO RKB. DATA FROM LOGS RAN FROM GL HAVE BEEN CORRECTED TO KB.
KB = 12' AGL

KEN E. DAVIS ASSOCIATES

DETROIT COKE CORPORATION
DETROIT, MICHIGAN

WELL SCHEMATIC
WASTE DISPOSAL WELL NO. 2
FIGURE 3.1.2-1

DATE: 12/12/87	CHECKED BY: R. F. S.	JOB NO.: 30-1010
DRAWN BY: O. T.	APPROVED BY: R. F. S.	DWG. NO.: 30-1010-5



NOTE: ALL DEPTHS REFERENCED TO RKB. DATA FROM LOGS RAN FROM GL HAVE BEEN CORRECTED TO KB. KB = 13' AGL

KEN E DAVIS ASSOCIATES

DETROIT COKE CORPORATION
DETROIT, MICHIGAN

WELL SCHEMATIC
WASTE DISPOSAL WELL NO. 3
FIGURE 3.1.3-1

DATE: 12/12/87	CHECKED BY: R. F. B.	JOB NO.: 30-1010
DRAWN BY: D. T.	APPROVED BY: R. F. B.	DWG. NO.: 30-1010-6

APPENDIX D

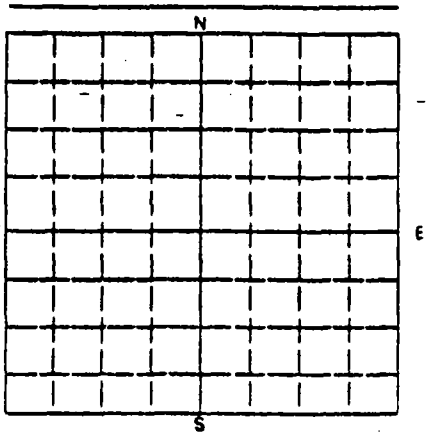
Form Approved OMB No 2000-0042. Approval expires 9-30-86

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

EPA ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

NAME AND ADDRESS OF EXISTING PERMITTEE	NAME AND ADDRESS OF SURFACE OWNER
Detroit Coke Corporation 7819 W. Jefferson Detroit, MI 48209	Detroit Coke Corporation 7819 W. Jefferson Detroit, MI 48209

LOCATE WELL AND OUTLINE UNIT ON SECTION PLAT — 640 ACRES



STATE	COUNTY	PERMIT NUMBER
MI	Wayne	MI-163-1W-0005

SURFACE LOCATION DESCRIPTION Private Claim 67
¼ OF ¼ OF ¼ SECTION TOWNSHIP 2S RANGE 11E

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location ____ ft. from (N/S) ____ Line of quarter section

and ____ ft. from (E/W) ____ Line of quarter section

WELL ACTIVITY
- ☐ Brine Disposal
- ☐ Enhanced Recovery
- ☐ Hydrocarbon Storage

TYPE OF PERMIT
- ☒ Individual
- ☐ Area

Number of Wells 3

Lease Name Wildcat Well Number #3

*BBL= 50 gal

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING — CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL *	MCF	MINIMUM PSIG	MAXIMUM PSIG
Jan	1990	444	700	14772		580	850
Feb	1990	524	780	12819		720	980
ar	1990	736	1030	20866		825	1260
Apr	1990	640	990	20019		950	1190
May	1990	634	980	21071		950	1130
Jun	1990	600	1010	17664		940	1150
Jul	1990	598	1000	15882		625	1250
Aug	1990	532	1050	12322		300	1190
Sept	1990	770	1120	20551		880	1260
Oct	1990	618	1130	17052		180	1340
Nov	1990	370	520	8270		200	725
Dec	1990	366	620	17506		300	770

CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

NAME AND OFFICIAL TITLE (Please type or print)	SIGNATURE	DATE SIGNED
Eric Jones Environmental Supv.	Eric Jones	3/27/91

Form Approved OMB No. 2000-0042. Approval expires 9-30-86

EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

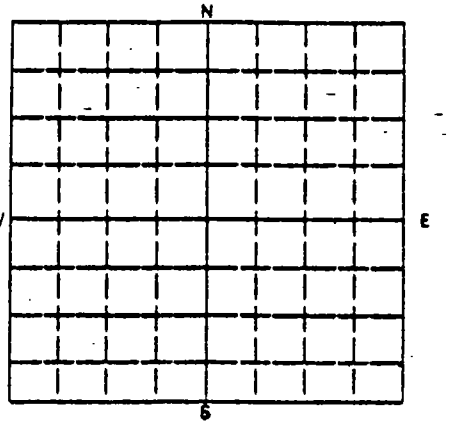
NAME AND ADDRESS OF EXISTING PERMITTEE

Detroit Coke Corporation
7819 W. Jefferson
~~Detroit, MI 48209~~

NAME AND ADDRESS OF SURFACE OWNER

Detroit Coke Corporation
7819 W. Jefferson
Detroit, MI 48209

LOCATE WELL AND OUTLINE UNIT ON SECTION PLAT — 640 ACRES



STATE	COUNTY	PERMIT NUMBER
MI	Wayne	MI-163-1W-0004

SURFACE LOCATION DESCRIPTION ¼ OF ¼ OF ¼ SECTION Private Claim 67 TOWNSHIP 2S RANGE 11E

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location ____ ft. from (N/S) ____ Line of quarter section

and ____ ft. from (E/W) ____ Line of quarter section

WELL ACTIVITY

- ☐ Brine Disposal
- ☐ Enhanced Recovery
- ☐ Hydrocarbon Storage

TYPE OF PERMIT

- XX ☒ Individual
- ☐ Area

Number of Wells 3

Lease Name Wildcat Well Number #2

* BBL = 50 gal

MONTH	YEAR	INJECTION PRESSURE AVERAGE PSIG	INJECTION PRESSURE MAXIMUM PSIG	TOTAL VOLUME INJECTED BBL *	TOTAL VOLUME INJECTED MCF	TUBING — CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MINIMUM PSIG	TUBING — CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MAXIMUM PSIG
Jan	1990	438	700	24556		640	900
Feb	1990	518	830	23025		730	1040
[illegible]	1990	692	980	35258		320	1275
Apr	1990	638	980	35105		1025	1190
May	1990	633	980	35574		1020	1180
Jun	1990	604	1020	31604		1050	1190
Jul	1990	605	1000	31150		660	1300
Aug	1990	548	1060	26751		300	1210
Sept	1990	769	1120	38858		990	1450
Oct	1990	629	1130	42665		410	1340
Nov	1990	390	680	44335		520	880
Dec	1990	384	890	32324		500	1300

CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

NAME AND OFFICIAL TITLE (Please type or print)	SIGNATURE	DATE SIGNED
Eric Jones Environmental Supv.	Eric Jones	3/27/91

Form Approved OMB No 2000-0042. Approval expires 9-30-86

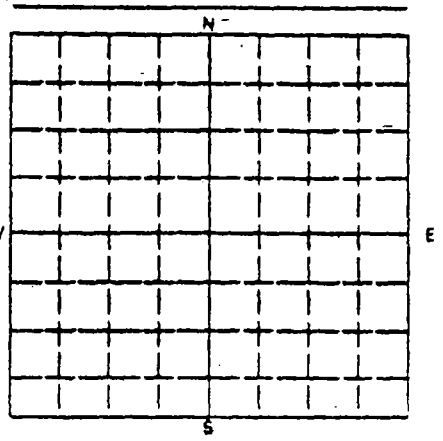
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

EPA ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

NAME AND ADDRESS OF EXISTING PERMITTEE
Detroit Coke Corporation
7819 W. Jefferson
Detroit, MI 48209

NAME AND ADDRESS OF SURFACE OWNER
Detroit Coke Corporation
7819 W. Jefferson
Detroit, MI 48209

LOCATE WELL AND OUTLINE UNIT ON SECTION PLAT — 640 ACRES



STATE	COUNTY	PERMIT NUMBER
MI	Wayne	MI-163-1W-0003

SURFACE LOCATION DESCRIPTION Private Claim 67
¼ OF ¼ OF ¼ SECTION TOWNSHIP 2S RANGE 11E

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location ____ ft. from (N/S) ____ Line of quarter section
and ____ ft. from (E/W) ____ Line of quarter section

WELL ACTIVITY
- ☐ Brine Disposal
- ☐ Enhanced Recovery
- ☐ Hydrocarbon Storage

TYPE OF PERMIT
- XX ☒ Individual
- ☐ Area
- Number of Wells 3

Lease Name Wildcat Well Number #1

* BBL = 50 gal.

MONTH	YEAR	INJECTION PRESSURE AVERAGE PSIG	INJECTION PRESSURE MAXIMUM PSIG	TOTAL VOLUME INJECTED BBL *	TOTAL VOLUME INJECTED MCF	TUBING — CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MINIMUM PSIG	TUBING — CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MAXIMUM PSIG
Jan	1990	440	700	21050		620	870
Feb	1990	520	860	19313		740	1040
	1990	421	1150	13950		200	1270
	1990	80	80	0		200	200
May	1990	80	80	0		200	200
Jun	1990	80	80	0		200	200
Jul	1990	189	860	4620		325	1000
Aug	1990	508	1020	15389		200	1230
Sept	1990	80	80	0		150	200
Oct	1990	----------	----------	Well Undergoing Rework	----------	----------	----------
Nov	1990	----------	----------	Well Undergoing Rework	----------	----------	----------
Dec	1990	298	520	4561		500	690

CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

NAME AND OFFICIAL TITLE (Please type or print)	SIGNATURE	DATE SIGNED
Eric Jones Environmental Supv.	Eric Jones	3/27/91

APPENDIX E

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

Analytical Laboratory Report
for
DETROIT COKE CORPORATION

Clayton Project No. 65748-17
P.O. No. D-1875-90

Lab Number: 823794
Sample Description: AMMONIA LIQUOR

Analyte			Limit of Detection	
TCLP Metals				
Arsenic	<0.1	mg/L	0.1	mg/L
Barium	<0.5	mg/L	0.5	mg/L
Cadmium	<0.05	mg/L	0.05	mg/L
Chromium	<0.2	mg/L	0.2	mg/L
Lead	<0.5	mg/L	0.5	mg/L
Mercury	0.043	mg/L	0.005	mg/L
Selenium	<0.2	mg/L	0.2	mg/L
Silver	<0.1	mg/L	0.1	mg/L
Pesticides				
2,4-D	<0.7	ug/L	0.7	ug/L
2,4,5-T Silvex	<0.4	ug/L	0.4	ug/L
Endrin	<5	ug/L	5	ug/L
Lindane	<3	ug/L	3	ug/L
Methoxychlor	<30	ug/L	30	ug/L
Toxaphene	<50	ug/L	50	ug/L

Analytical Methods

TCLP Metals: 40 CFR 268, Appendix I--Toxicity Characteristic Leaching Procedure (TCLP).

2,4-D and 2,4,5-T Silvex: EPA 8150 (modified)

Endrin, lindane, methoxychlor and toxaphene: EPA 608 (modified)

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
DETROIT COKE CORPORATION

Clayton Project No. 65748-17

Sample Matrix/Media:	Liquid	Date Received:	05/21/90
Lab Number:	823794 (E0607 + E0635)	Date Analyzed:	06/11/90
Sample Identification:	AMMONIA LIQUOR		
Analytical Method:	EPA 8240		

Volatile Compounds	Concentration (ug/L)	Limit of Detection (ug/L)
Benzene	11000	5
Carbon tetrachloride	<5	5
Chlorobenzene	<5	5
Chloroform	<5	5
1,2-Dichloroethane	<5	5
1,1-Dichloroethylene	<5	5
2-Butanone	<50	50
Tetrachloroethylene	<5	5
Trichloroethylene	<5	5
Vinyl chloride	<10	10

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
DETROIT COKE CORPORATION

Clayton Project No. 65748-17

Sample Matrix/Media:	Liquid	Date Prepared:	06/11/90
Lab Number:	823794 (E0606 + E0634)	Date Analyzed:	06/11/90
Sample Identification:	LAB BLANK		
Analytical Method:	EPA 8240		

Volatile Compounds	Concentration (ug/L)	Limit of Detection (ug/L)
Benzene	<5	5
Carbon tetrachloride	<5	5
Chlorobenzene	<5	5
Chloroform	<5	5
1,2-Dichloroethane	<5	5
1,1-Dichloroethylene	<5	5
2-Butanone	<50	50
Tetrachloroethylene	<5	5
Trichloroethylene	<5	5
Vinyl chloride	<10	10

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
DETROIT COKE CORPORATION

Clayton Project No. 65748-17

Sample Matrix/Media:	Liquid	Date Received:	05/21/90
Lab Number:	823794 (A9561)	Date Extracted:	05/25/90
Sample Identification:	AMMONIA LIQUOR	Date Analyzed:	06/07/90
Analytical Method:	EPA 8270		

Compounds	Concentration (ug/L)	Limit of Detection (ug/L)
*Total- 3+4 Methylphenol	9000	2000
2-Methylphenol	<2000	2000
1,4-Dichlorobenzene	<2000	2000
2,4-Dinitrotoluene	<2000	2000
Hexachlorobenzene	<2000	2000
Hexachlorobutadiene *	<2000	2000
Hexachloroethane	<2000	2000
Nitrobenzene	<2000	2000
Pentachlorophenol	<2000	2000
2,4,5-Trichlorophenol	<2000	2000
2,4,6-Trichlorophenol	<2000	2000
Pyridine	58000	2000

* 3+4 Methylphenol co-eluted and could not be seperated.

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
DETROIT COKE CORPORATION

Clayton Project No. 65748-17

Sample Matrix/Media:	Liquid	Date Prepared:	05/25/90
Lab Number:	------ (A9559)	Date Extracted:	05/25/90
Sample Identification:	LAB BLANK	Date Analyzed:	06/07/90
Analytical Method:	EPA 8270		

Compounds	Concentration (ug/L)	Limit of Detection (ug/L)
*Total- 3+4 Methylphenol	<10	10
2-Methylphenol	<10	10
1,4-Dichlorobenzene	<10	10
2,4-Dinitrotoluene	<10	10
Hexachlorobenzene	<10	10
Hexachlorobutadiene	<10	10
Hexachloroethane	<10	10
Nitrobenzene	<10	10
Pentachlorophenol	<10	10
2,4,5-Trichlorophenol	<10	10
2,4,6-Trichlorophenol	<10	10
Pyridine	<10	10

* 3+4 Methylphenol co-eluted and could not be seperated.

APPENDIX F

OMB No: 2050-0042
Expiration Date: June 30, 1987

RCRA SECTION 3007 QUESTIONNAIRE
Coke By-Product Industry

Return within 45 days from date of receipt to:

Ms. Dina Villari (WH 562)
Characterization and Assessment Division
Office of Solid Waste
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

1. CORPORATE/PLANT DATA

A. Name of Corporation: DETROIT COKE CORPORATION

B. Address of Corporation Headquarters

Street: 660 GRISWOLD

City: NORTHVILLE State: MICHIGAN Zip: 48167

C. Name of Plant: DETROIT COKE CORPORATION

D. Address of Plant

Street: 7819 WEST JEFFERSON AVENUE

City: DETROIT State: MICHIGAN Zip: 48209

Hazardous waste generator ID number: _____

E. Mailing Address of Plant (if different from above)

_____

F. Name(s) of personnel to be contacted for additional information pertaining to this questionnaire

Name	Title and Location	Telephone
CARL CURRY	ENVIRONMENTAL AFFAIRS	(313) 842-6222
JOSEPH WOOD, JR.	PLANT SUPERINTENDENT	(313) 842-6222

RODUCTION INFORMATION

A. Coke Production

If coke is not manufactured at this plant, go to Question 2-B (Coal Tar and/or Light Oil Refinery Production).

1. Provide the "nominal" total annual capacity of coke production (as of the end of 1984) in short tons per year (TPY) by oven operational status.

Oven Status	1984 Annual Capacity (TPY)	Number of Ovens
Hot (operational or standby)	544,000	70
Cold (idle)	N.A.	0
Being rebuilt or under construction	N.A.	0

2. Provide the amount of coke produced by this plant in 1984 by coke type/end use.

Coke Type/End Use	1984 Production (short tons)
Metallurgical (i.e., blast furnace)	
(Foundry)	269,666 TONS (INCLUD. BREEZE)
Other	

3. Provide an estimate of the percentage of total coal carbonized for the production of coke during 1984 by coal type.

45 % Bituminous—low volatile (14-22% volatile matter, dry m.m.f. basis*)

25 % Bituminous—medium volatile (23-31% volatile matter, dry m.m.f. basis)

15 % Bituminous—high volatile (>31% volatile matter, dry m.m.f. basis)

-0- % Anthracite

15 % Other (specify COKE BREEZE)

100 % Total

*Classification based on ASTM Designation D388-36; m.m.f. = mineral matter free

4. Provide the operating schedule during 1984 for this plant: 365 operating days, typically for 24 hours per operating day.

B. Coal Tar and/or Light Oil Refinery Production

If neither coal tar nor crude coal derived light oils are refined (i.e., further processed to recover by-products) at this plant, go to Question 2-C (By-Product/Co-Product Production).

1. Provide the nominal annual capacity and 1984 input (i.e., amount refined) for the tar refining and/or light oil refining operations at this plant (as of the end of 1984) in thousand gallons per year (1,000 GPY) by feedstock type.

Feedstock/Input	1984 Annual Capacity (1,000 GPY)	Amount Processed In 1984 (1,000 GPY)
Coal tar		
Non-coal tar (specify _____)		
Coal light oil		
Non-coal light oil (specify _____)		

C. By-Product/Co-Product Production

Check the types of products and by-products/co-products recovered at this facility in 1984 by major process area and indicate the amount recovered and fate/use (including company sold to, if sold). An example is provided on the following pages (Example I).

1. Tar recovery and refining

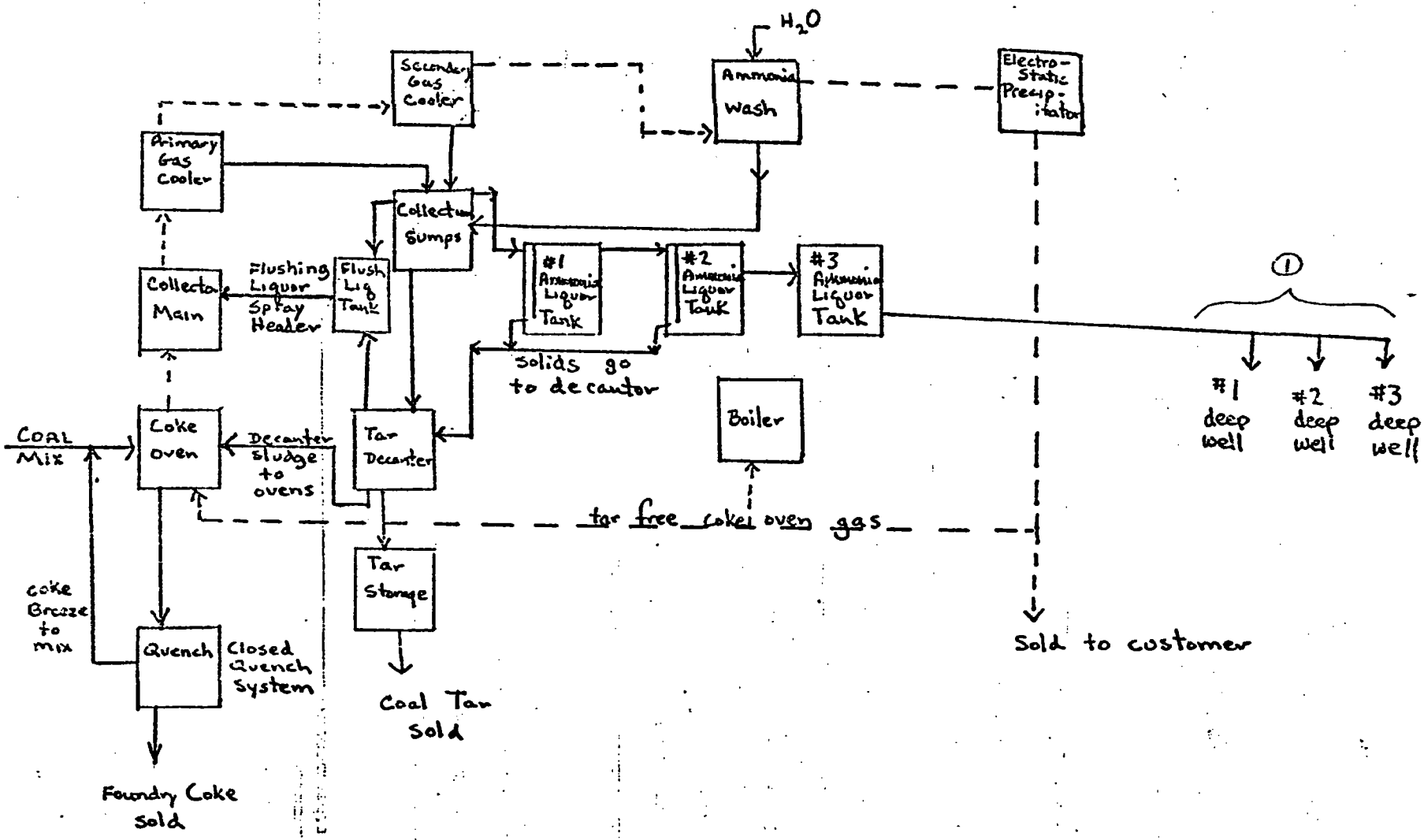
By-Product	By-Product Quantity (specify units)	Fate/Use
X Crude coal tar	1,118,780 GALLONS DRY	SOLD-ALLIED CORP.
___ Benzene		
___ Toluene		
___ Xylene		
___ Coal tar pitch		
___ Creosote oil		
___ Cresols		
___ Cresylic acid		
___ Crude tar acid oil		
___ Naphthalene		
___ Phenol		
___ Pyridine		
___ Picoline		
___ Quinoline		
___ Solvent naphtha		
___ Other (specify below)		
___		
___		
___		
___		

2. Primary processing

By-Product	By-Product Quantity (specify units)	Fate/Use
X Coke breeze	21,182 TONS	USED IN COAL MIX
X Coke oven gas	236 X 10^9 MCF	1)RECYCLED AS FUEL TO OVENS
____ Ammonia sulfate		2)SOLD TO NATIONAL STEE
____ Anhydrous ammonia		
____ Di-ammonium phosphate		
____ Sodium phenolate		
____ Phenol		
____ Naphthalene		
____ Crude light oil		
____ Other (specify below)		

3. Secondary processing (light oil refining & desulfurization)

By-Product	By-Product Quantity (specify units)	Fate/Use
____ Intermediate light oil		
____ Benzene		
____ Toluene		
____ Xylene		
____ Solvent naphtha		
____ Sulfur (elemental)		
____ Other (specify below)		


H_2O
Secondary Gas Cooler
Ammonia Wash
Electro-Static Precip-itator
Primary Gas Cooler
Collecting Sumps
Collecting Main
Flushing Liquor Spray Header
Flush Liq Tank
#1 Ammonia Liquor Tank
#2 Ammonia Liquor Tank
#3 Ammonia Liquor Tank
①
Solids go to decantor
#1 deep well
#2 deep well
#3 deep well
Boiler
COAL Mix
Coke oven
Decanter sludge to ovens
Tar Decanter
tar free coke oven gas
Tar Storage
Coke Breeze to mix
Quench
Closed Quench System
Coal Tar Sold
Foundry Coke Sold
Sold to customer

Processing

UNIT PROCESSES

A. Coke Processing

Is larry car equipped with scrubber? Yes _____ No X
Is pushing car equipped with scrubber? Yes _____ No X

B. Tar Separation and Processing

1. Circle type of primary cooler used at this facility:

   (a.) direct
   b. indirect
   c. other (specify) _____

2. If tar is further processed after decantation and dewatering, provide a block flow diagram indicating products, co-products/by-products, inputs and waste streams (with unique residual identification numbers assigned) as outlined in Question 3, unless already included in the block flow diagram in response to Question 3.

3. Indicate the fate of the tar if it is not processed further following decantation and dewatering (e.g., burned in coke oven, sold to merchant refiner). SOLD

C. Phenol Recovery

1. Is phenol recovered from ammonia liquor at this facility? Yes _____ No X

2. If yes, complete the following by circling the correct responses below:

   a. Type of recovery

      1. solvent extraction (indicate solvent used) _____
      2. stream stripping (vapor recirculation)
      3. carbon adsorption
      4. other (specify) _____

   b. Reagent used to precipitate phenolics

      1. caustic (NaOH)
      2. other (specify) _____
      3. not practiced

   c. Acid gas used in "springing" (neutralization with gas to recover phenol)

      1. CO_2
      2. other (specify) _____
      3. not practiced

D. Ammonia Recovery

1. Is ammonia recovered from the flushing liquor and/or oven gas at this facility?
   Yes _____ No X

2. If yes, circle the correct responses below:

   a. Type of ammonia still

      1. direct
      2. semi-direct
      3. indirect
      4. other (specify) _____

   b. If semi-direct or direct still, what compound is used for pH adjustment?

      1. caustic (NaOH)
      2. lime [$Ca(OH)_2$]
      3. other (specify) _____

   c. Type of ammonia absorber

      1. ammonium sulfate—barometric condenser not used (i.e., Otto system)
      2. ammonium sulfate—barometric condenser (i.e., Wilputte system)
      3. anhydrous ammonia (Phosam process)
      4. other (specify) _____

   d. Scrubbing medium used in the absorber

      1. sulfuric acid (H_2SO_4)
      2. ammonium dihydrogen phosphate ($NH_4H_2PO_4$)
      3. other (specify) _____

   e. Is ammonia incinerated at this facility? Yes _____ No _____

E. Naphthalene Recovery/Final Cooler

1. Is coke oven gas cooled in a final cooler at this facility? Yes X No _____

2. If yes, circle the type of final cooler/naphthalene recovery used:

   1. direct contact with water; naphthalene recovered
   2. direct contact with wash oil; naphthalene recovered
   (3.) direct contact with water; naphthalene dissolved in tar
   4. direct contact with wash oil; naphthalene dissolved in tar
   5. other (specify) _____

F. Light Oil Recovery

1. Is light oil recovered from coke oven gas at this facility? Yes _____ No X

2. If yes, circle the type of light oil process(es) used:

   1. absorption in a liquor followed by steam stripping to separate the light oil; liquor used to absorb light oil is:

      i. petroleum wash oil
      ii. other (specify) _____

   2. refrigeration followed by compression

   3. adsorption on solids (such as carbon) followed by refrigeration

G. Light Oil Refining

1. Is light oil refined from crude light oil at this facility? Yes _____ No X

2. If light oil is refined, include a block flow diagram as outlined in Question 3 unless the light oil refinery was included in the block flow diagram in response to Question 3.

3. Are crude light oil fractions washed with acid and subsequently neutralized prior to further refining? Yes _____ No _____

   If yes, specify acid _____ and neutralizing agent _____

H. Desulfurization

1. Is sulfur removed from coke oven gas at this facility? Yes _____ No X

2. If yes, complete the following by circling the correct responses.

   a. Type of desulfurization

      1. absorption in basic solutions

         i. Vacuum Carbonate process
         ii. Sulfiban process
         iii. Dravo/Still process
         iv. other (specify) _____

      2. absorption in oxidizing solution

         i. Thylox process
         ii. Stretford process
         iii. Takahax process
         iv. other (specify) _____

      3. cryogenic sulfur recovery

      4. other (specify) _____

   b. Sulfur is recovered

      1. in a Claus plant
      2. as sulfuric acid
      3. other (specify) _____

3. Is there a spent desulfurization solution or waste? Yes _____ No _____ .

I. Wastewater Treatment

If wastewater treatment was not included in the response to Question 3, provide a general block flow diagram for the coke by-product wastewater treatment system. Indicate the types and points of introduction/generation of all inputs and residuals. For the wastewater treatment plant inputs, use the residual identification numbers (RIN) assigned in the block flow diagram from Question 3 if possible. For new wastewater treatment plant inputs (i.e., coke by-product waste streams not previously identified), assign a unique RIN. All residuals generated in the wastewater system units should also be assigned a unique RIN. The block flow diagram should also include intercepting sumps and sludges generated from these sumps. If waste streams associated with non-coke by-products processes (e.g., pickling liquor from steel making) are combined with coke by-product waste streams, please indicate this on the flow diagram. A typical block flow diagram for a sample coke by-product wastewater treatment system is presented on the following page (Example IV).

APPENDIX G

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

DAVID F. HALES, Director

S.E. MICHIGAN FIELD OFFICE
Waste Management
505 W. Main
Northville, MI 48167

May 31, 1989

MR. Byron Tims, Lab Supervisor
Detroit Coke Corporation
7819 W Jefferson
P.O. Box 09229
Detroit, MI 48209

RE: MID 099114704

Dear Mr. Tims,

On May 18, 1989, an inspection was conducted at your facility located at the above address. The purpose of the inspection was to evaluate compliance of that facility with the requirements of Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended; Michigan's Hazardous Waste Management Act, Act 64 of 1979, as amended; Michigan's Liquid Industrial Waste Hauling Act, Act 136, P.A. of 1969, as amended; and Land Disposal Restriction requirements of Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended.

I have determined that your facility has no deficiencies of the requirements in the areas reviewed during that inspection.

Thank you for your cooperation during my visit.

Sincerely,

Faye Mitchell

Faye Mitchell
Environmental Quality Analyst

Enclosure
FM:fm
cc: B. Okwumabua

RCRA/ACT 64 INSPECTION REPORT

U.S. EPA I.D. Number (or Michigan) MIDO991147O4

FACILITY NAME (Mailing Address)
Detroit Coke Corp.
7819 W. Jefferson
Detroit MICHIGAN 48209
CITY ZIP CODE

DATE May 18, 1989 TIME OF INSPECTION (FROM) 10:30 (TO) 1:30

PERSON(S) INTERVIEWED	TITLE	TELEPHONE
Byron Tims	Lab Supervisor	313-842-6222

INSPECTOR(S)	AGENCY/TITLE	TELEPHONE
Faye Mitchell	MDNR/E.D.F.	313-344-4670

Primary Business of this Facility: Manuf. of Foundry Coke & by products of coals

Reason for Inspection:

✓ Routine ____ Follow-up ____ Complaint

Based upon the inspection, this facility: FORM

- ____ is a non-generator/liquid industrial waste generator A
- ____ conditionally exempt small quantity generator A
- ____ small quantity generator A
- ✓ generator B
- ____ transporter C
- ✓ treatment/storage/disposal facility Underground Injection D

Date of Last Inspection 6-10-88

Permitted under the UIC Program.

Detroit Coke

INSPECTION FORM D
Part 6 of Rules
P.A. 64 of 1979

TREATMENT, STORAGE, DISPOSAL FACILITY

This Facility:

__✓__ Generates Hazardous Waste (Also use Generator Appendix)

_____ Treats Hazardous Waste

_____ Stores Hazardous Waste

__✓__ Disposes of Hazardous Waste

_____ Transports Hazardous Waste (Also use Form C)

This Facility:

_____ Accepts wastes from off-site sources

__✓__ Handles only its own wastes

If applicable, hazardous waste is stored in the following:

_____ Drums (Containers)

_____ Above-ground tanks

_____ Underground tanks

_____ Waste piles

_____ Lagoons

_____ Other

_____ Not applicable

If applicable, hazardous wastes are treated/disposed in the following:
(Attach appropriate checklist)

_____ Surface Impoundments

_____ Waste piles

_____ Land Treatment

_____ Landfills

_____ Incineration/Thermal Treatment

_____ Chemical, Physical and Biological Treatment

_____ Above-ground tanks

INSPECTION D

_____Underground tanks

_____Drums

__✓__Other Underground injections wells (3)

_____Not applicable

WASTE STREAMS

Hazardous Waste Code/Name	Source	Type of Storage	How Much
D003 ammonia liquor	COKing Process	NO Storage	100,000 gal/day

* As a UIC permitted Facility, Subject to 40CFR264 Subpart B ~~H~~ and any Aboveground ~~g~~ treatment, + storage of hazardous waste before it is injected underground

* Facility operates totally enclosed treatment System, waste material is enclosed from point of generation to injection.

* Although this checklist was filled out, Facility not subject to 40CFR 264 based on ~~exempt~~ enclosed systems exemption 40CFR 264.1(g)(5)

INSPECTION FORM D
Part 6 Rules
P.A. 64 of 1979

HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITY
Applies to Those Facilities That Do Not Have an Act 64 Permit

General Facility Standards
Rule 601, 40 CFR 265, Subpart B

	Yes	No	N/A	Violation Class
1. If required, have the following been notified:				
a.) Notified Director of receipt of hazardous waste from a foreign source? 265.12(a)			✓	II
b.) Notified Director of change of owner or operator. 40 CFR Part 270. 265.12(b)	✓			II

Comments:

2. General Waste Analysis: 265.13

a.) Has the owner or operator obtained a detailed chemical and physical analysis of the waste? 265.13(a)	✓			I
b.) Does the owner or operator have a detailed waste analysis plan on file at the facility? 265.13(b)	✓			I
c.) Does the waste analysis plan specify procedures for inspection and analysis of each movement of hazardous waste from off-site? 265.13(c)			✓	I

Comments: Recent waste analysis report indicated that cyanide levels in the Ammonia Liquor was 39.8 ppm.

INSPECTION FORM D

	Yes	No	N/A	Violation Class
3. Security - If applicable, do security measures include:				
a.) 24-hour surveillance? 265.14(b)(1)	✓	guard		I
or				
b.) i. Artificial or natural barrier around facility? 265.14(b)(2)(i)	✓			I
and				
ii. Controlled entry? 265.14(b)(2)(ii)	✓			I
c.) Danger sign(s) at entrance? 265.14(c)	✓			I

Comments: _____

4. Owner or operator inspections: 265.15*

	Yes	No	N/A	Violation Class
a.) Does the owner or operator inspect the facility for malfunctions, deterioration, operator errors, and discharges of hazardous waste that may affect human health or the environment? 265.15(a)	✓ (covered under L/C)			II
b.) Does the owner or operator have a written inspection schedule at the facility? 265.15(b)(1)	✓			II
c.) If so, does the schedule address the inspection of the following items:				
i. Monitoring equipment? 265.15(b)(1)	✓			II
ii. Safety and emergency equipment?	✓			II
iii. Security devices? 265.15(b)(1)	✓			II
iv. Operating and structural equipment (i.e. dikes, pumps, etc.)? 265.15(b)(1)	✓			II

* These violations are Class II, unless observations of hazardous conditions or violations are noted in the log and not corrected which result in the release or actual harm to the environment or human health; in such instances violations are Class I.

	Yes	No	N/A	Violation Class
v. Type of problems to be looked for during the inspection (e.g. leaky fitting, defective pump, etc.)?	✓			II
vi. Inspection frequency (based upon the possible deterioration rate of the equipment)? 265.15(b)(4)	✓			II
d.) Are areas subject to spills inspected daily when in use? 265.15(b)(4)				II
e.) Does the owner or operator maintain an inspection log or summary of owner or operator inspections?				II
f.) Does the inspection log contain the following information: 265.15(d)				
i. The date and time of the inspection? 265.15(d)				II
ii. The name of the inspector? 265.15(d)				II
iii. A notation of the observations made? 265.15(d)				II
iv. The date and nature of any repairs or remedial actions? 265.15(d)				II

Comments: _____

_____

_____

_____

5. Do personnel training records include: 265.16				
a.) Job titles? 265.16(d)(1)	✓			I
b.) Job descriptions? 265(d)(2)	✓			I
c.) Description of training? 265.16(d)(3)	✓			I

INSPECTION FORM D

	Yes	No	N/A	Violation Class
d.) Records of training? 265.16(d)(4)	✓			II
e.) Do new personnel receive required training within six months? 265.16(d)	✓			I
f.) Do personnel training records indicate that personnel have taken part in an annual review of training? 264.16(c)	✓			I

Comments: _____

_____

_____

_____

6. If required, are the following special requirements for ignitable, reactive, or incompatible wastes addresses? 265.17 | | | | I

a.) Special handling? 265.17(a)				I
b.) No smoking signs? 265.17(a)	✓			I
c.) Separation and protection from ignition sources? 265.17(a)	✓			I

Comments: _____

_____

_____

_____

PREPAREDNESS AND PREVENTION
Rule 606, 40 CFR 265, Subpart C

1. Is there any evidence of fire, explosion, or release of hazardous waste or hazardous waste constituents 40 CFR Rule 265.31		✓		I

Comments: _____

_____

INSPECTION FORM D

	Yes	No	N/A	Violation Class
2. If required, does this facility have the following equipment: 40 CFR 265.32				
a.) Internal communications or alarm systems. 40 CFR 265.32(a)	✓			I
b.) Telephone or 2-way radios at the scene of operations. 40 CFR 265.32(b)	✓			I
c.) Portable fire extinguishers, fire control, spill control equipment and decontamination equipment. 40 CFR 265.32(c)	✓			I
d.) Indicate the volume of water and/or foam available for fire control.	CH			

Comments: _____

3. Testing and Maintenance of Emergency Equipment: 265.33 NC

a.) Has the owner or operator established testing and maintenance procedures for emergency equipment? 265.33	✓			
b.) Is emergency equipment maintained in operable condition? 265.33	✓			
c.) If required, has owner or operator provided immediate access to internal alarms? 40CFR 265.34(a)	✓			
d.) Is there adequate aisle space for unobstructed movement for personnel and emergency equipment. 40 CFR 265.35.	✓			I

INSPECTION FORM D

	Yes	No	N/A	Violation Class
Comments:				
4. Has the owner or operator attempted to make arrangements with local authorities in case of emergencies. 40 CFR 265.37	✓			II
Comments:				

CONTINGENCY PLAN AND EMERGENCY PROCEDURES
Rule 607, 40 CFR 265 Subpart D.

1.	Does the contingency plan contain the following information:	U/C			
a.)	The actions facility personnel must take to comply with 265.51 and 265.56 in response to fires, explosions, or any unplanned release of hazardous waste? (If the owner has a Spill Prevention Control and Countermeasures (SPCC) Plan, he needs only to amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Part (As applicable). 265.52(a)	✓			I
b.)	Arrangements or attempts to make arrangements agreed to by local police departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to 40 CFR 265.52(c) 265.37	✓			II
c.)	Names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator. 40 CFR 265.52(d)	✓			II

INSPECTION FORM D

		Yes	No	N/A	Violation Class
d.)	A list of all emergency equipment at the facility which includes the location and physical description of each item on the list, and a brief outline of its capabilities. 40 CFR 265.52(e)	✓			II
e.)	An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary? (This plan must describe signal(s) to be used to begin evacuation, evacuation routes and alternate evacuation routes.) 40 CFR 265.52(f)	✓			II
f.)	Is the facility emergency coordinator identified. 40 CFR 265.55	✓			II
g.)	Is coordinator familiar with all aspects of site operation and emergency procedures. 40 CFR 265.55	✓			II
h.)	Does the Emergency Coordinator have the authority to carry out the Contigency Plan. 40 CFR 265.55	✓			II
i.)	If an emergency situation has occurred at this facility, has the emergency coordinator followed the emergency procedures listed in 265.56.			✓	I
j.)	Has contingency plan been amended to reflect changes in regulations, plan failure, changes in the facility, list of emergency coordinators, changes in emergency equipment. 40 CFR 265.54	✓			II

Comments: _____

INSPECTION FORM D

	Yes	No	N/A	Violation Class
2. Are copies of the contingency plan available at site and local emergency organizations. 40 CFR 265.53(a) 264.53(b)	✓			II

Comments: _____

USE OF MANIFEST SYSTEM
Rule 601(2)(b)

1.	Does this facility receive hazardous waste accompanied by a manifest. If yes, complete the following:				
a.)	Are copies signed and dated. Rule 608(1)(a)				I
b.)	Are significant discrepancies noted on the manifest. Rule 608(1)(b)				I
c.)	Are transporters given 1 copy of the signed manifest. Rule 608(1)(c)				I
d.)	Are copies sent to the generator within 30 days. Rule 608(1)(d)				I
e.)	Are copies of the manifest retained for 3 years.				I
f.)	Are copies of the manifest returned to DNR within 10 days after end of month. Rule 608 (1)(f)				II

Comments: _____

INSPECTION FORM D

	Yes	No	N/A	Violation Class
2. Does this facility ship hazardous waste off-site. If yes, complete Generator Appendix. Rule 608(3)		✓		N/A

Comments: _____

3. For unreconciled significant discrepancies in manifests has the Director been notified. Rule 608(4) — Violation Class: I

Comments: _____

RECORDKEEPING
Rule 601(3) 40 CFR 265. Subpart E

1. Does the owner or operator of this facility maintain an operating record? Rule 609(1) — Yes: ✓ — Violation Class: II

Comments: AS Stipulated in their UIC Permit

2. Does this operating record contain: 265.73

a.) The method(s) and date(s) of each waste's treatment, storage, or disposal as required in 40 CFR Part 265.73(b)(1) Appendix I — Violation Class: II

	Yes	No	N/A	Violation Class
b.) The location and quantity of each hazardous waste within the facility? (This information should be cross-referenced to specific manifest number, if waste was accompanied by a manifest.) 265.73(b)(2)	___	___	___	II ___
c.) If this facility disposes of hazardous waste on-site, is there a map or diagram of disposal area. 265.73(b)(2)	___	___	___	II ___
d.) Records and results of all waste analyses, trial tests, monitoring data, and operator inspections? 265.73(b)(3)	___	___	___	II ___
e.) Reports detailing all incidents that required implementation of the Contingency Plan? 265.73(b)(4)	___	___	___	II ___
f.) Records and results of inspections as required in 40 CFR 264.15(d) 265.73(b)(5)	___	___	___	II ___
g.) <u>If required</u>, monitoring, testing, or analytical when required by construction permit, or operating license. Rule 265.73(b)(6)	___	___	___	II ___
h.) Closure and post closure cost estimates. 265.73(b)(7)	___	___	___	II ___

Comments: _____

_____

_____

_____

3. Are all required records available and maintained for at least 3 years. 265.74(3)	___	___	___	II ___

INSPECTION FORM D

	Yes	No	N/A	Violation Class

Comments: _____

_____

_____

_____

REPORTING

1. Has the owner or operator submitted a biennal report to the required administration by March 1 of even numbered years? 265.76	✓			II

Comments: _____

_____

_____

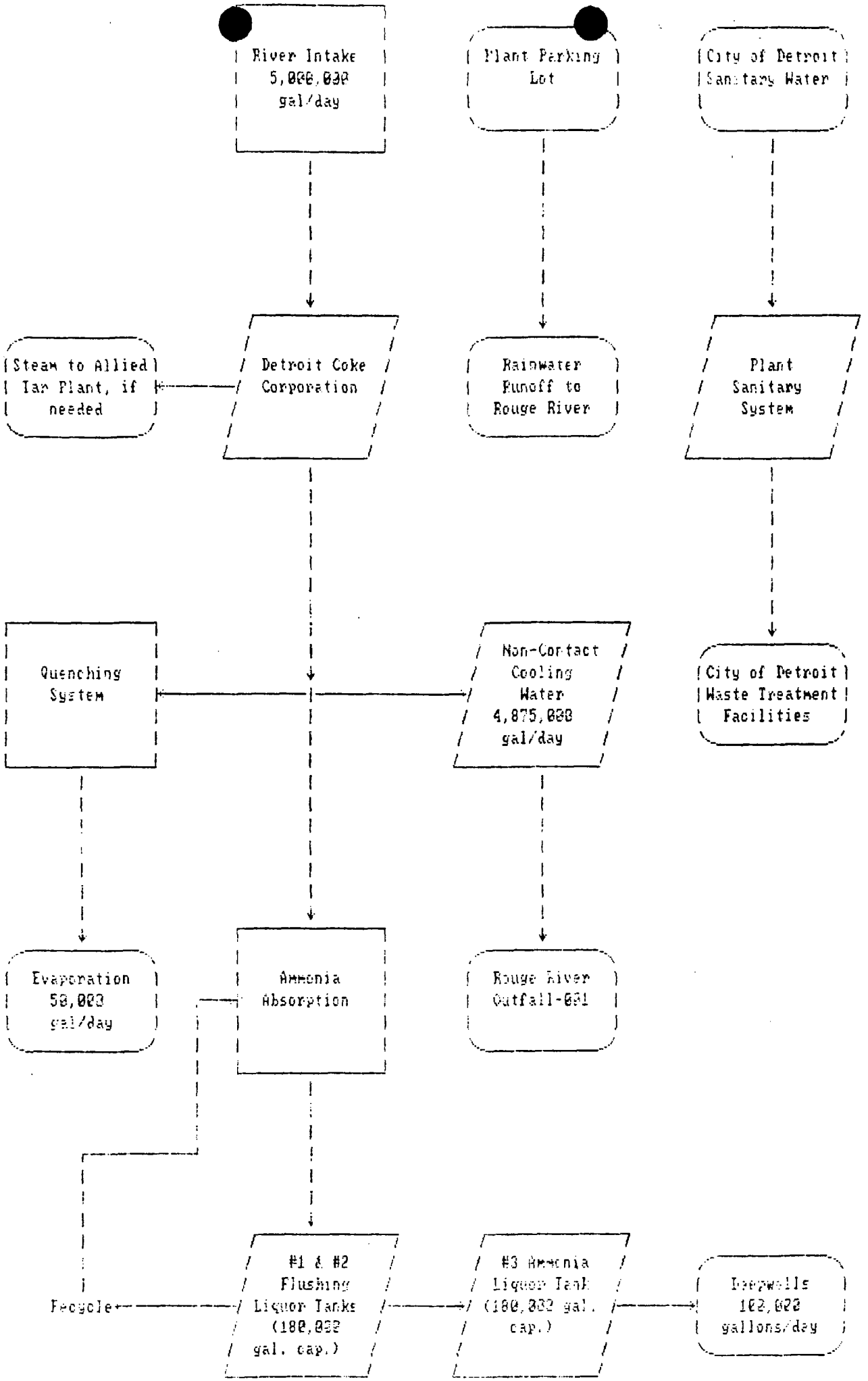
If applicable, for TSD's that receive hazardous waste from off-site sources. Rule 265.76				I
a.) Has the facility accepted any hazardous waste from an off-site generator subject to Rule 205 without a manifest or shipping paper?				I
b.) If "a" is yes, provide the identity of the source of the waste and a description of the quantity, type, and date received for each unmanifested hazarous waste shipment.				I

USE AND MANAGEMENT OF CONTAINERS
Drums/Roll-off Boxes/Gondolas

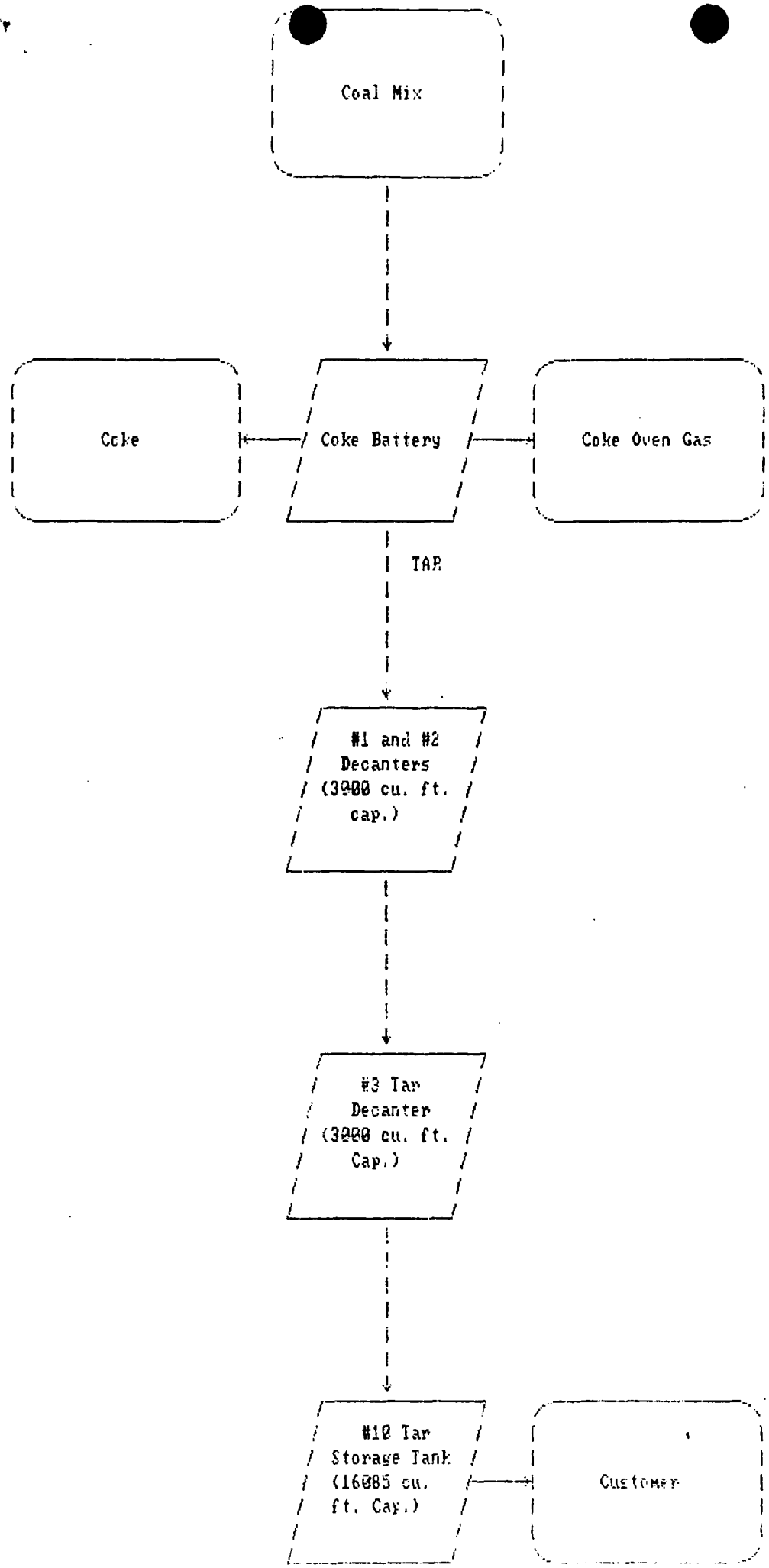
1. Is hazardous waste accumulated in containers? If no, skip to tank section.		✓		N/A
2. a.) Is each container clearly marked with accumulation date and hazardous waste number Rule 306(1)(c) If no, how many _____				I

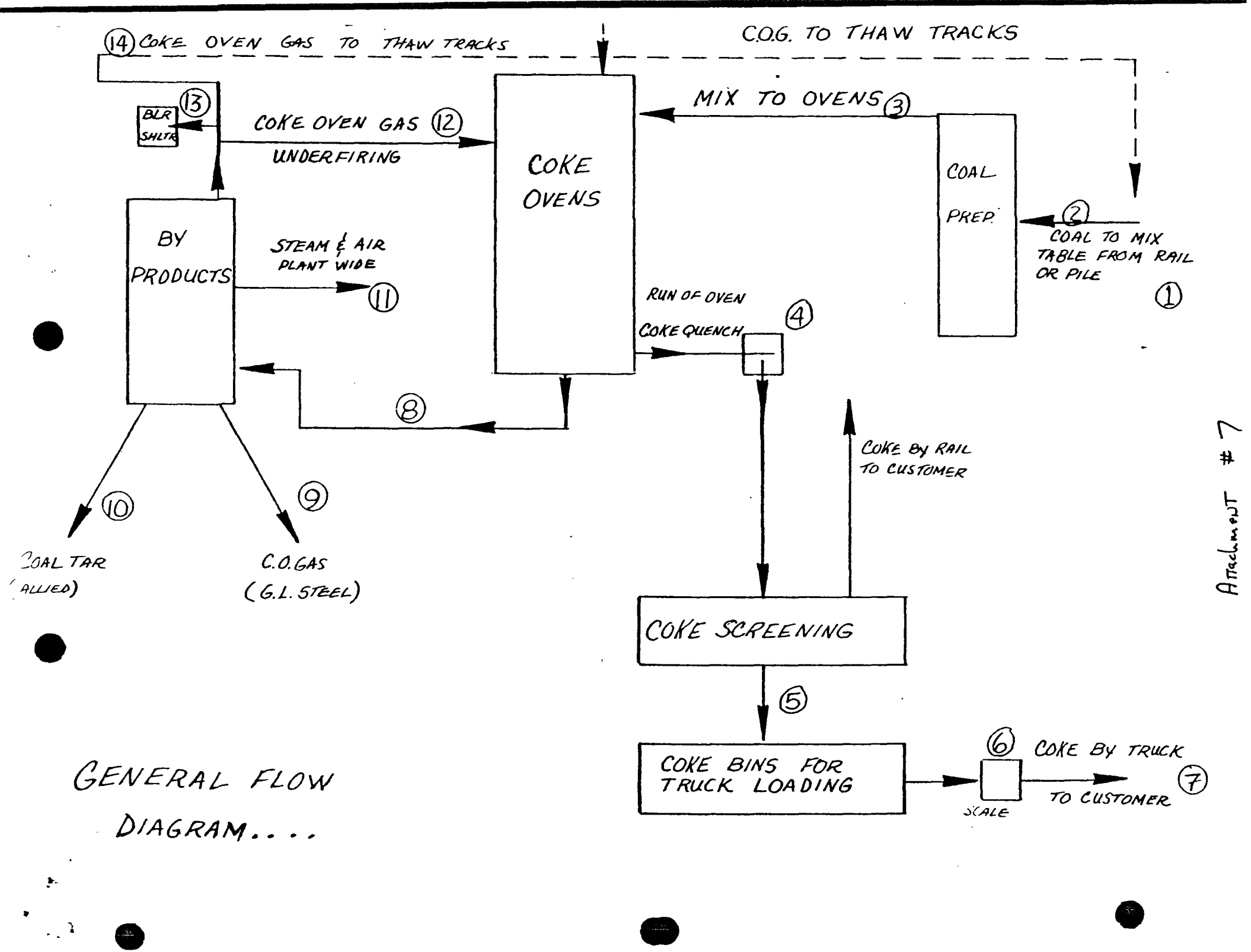
APPENDIX H

Attachment #8



Attachment #9





GENERAL FLOW DIAGRAM....

Attachment #7

APPENDIX I

Detroit Coke Corporation - 1990
SARA Title III - Form R
Summary Sheet

Releases to ~~Water~~ Deepwells

Source	Benzene 71-43-2	Phenol 108-95-2	Napthalene 91-20-3	Dibenzofuran 132-64-9	Anthracene 120-12-7	Propylene 115-07-1	Ethylene 74-85-1	Ammonia 7664-41-7	Cyanide
Deepwells	1,709 Lbs.	49,878 Lbs.	1,545 Lbs.	?	?	0 Lbs.	0 Lbs.	849,688 Lbs. @ 3000 ppm	31,433 Lbs.

Releases to Air

Source	Benzene 71-43-2	Phenol 108-95-2	Napthalene 91-20-3	Dibenzofuran 132-64-9	Anthracene 120-12-7	Propylene 115-07-1	Ethylene 74-85-1	Ammonia 7664-41-7	Cyanide
Charging	303 Lbs.	N.R.	896 Lbs.	231 Lbs.	149 Lbs.	376 Lbs.	2,131 Lbs.	N.R.	n.a
Door Leaks	559 Lbs.	n.a	n.a	n.a	n.a	838 Lbs.	4,749 Lbs.	N.R.	n.a
Final Cooler	------	------	------	------	------	------	------	------	------
Napth Proc	------	------	------	------	------	------	------	------	------
Tar Decanter	60,057 Lbs.	519 Lbs.	Not VOC	Not VOC	Not VOC	n.a	n.a	3,242 Lbs.	97 Lbs.
Tar Tank	931 Lbs.	N.R.	Not VOC	Not VOC	Not VOC	n.a	n.a	n.a	n.a
[illegible] Tank	2,654 Lbs.	11 Lbs.	Not VOC	Not VOC	Not VOC	n.a	n.a	70 Lbs.	2 Lbs.
TOTAL	64,504 Lbs.	530 Lbs.	896 Lbs.	231 Lbs.	149 Lbs.	1,214 Lbs.	6,880 Lbs.	3,312 Lbs.	99 Lbs.

38.91 tons

TOTAL RELEASES

Source	Benzene 71-43-2	Phenol 108-95-2	Napthalene 91-20-3	Dibenzofuran 132-64-9	Anthracene 120-12-7	Propylene 115-07-1	Ethylene 74-85-1	Ammonia 7664-41-7	Cyanide
Total	66,213 Lbs.	50,408 Lbs.	2,441 Lbs.	231 Lbs.	149 Lbs.	1,214 Lbs.	6,880 Lbs.	853,000 Lbs.	31,532 Lbs.
Total/ton cke	.1765	.1344	.0065	.0006	.0004	.0032	.0183	2.2742	.0841
Total/ton cl	.1422	.1083	.0052	.0005	.0003	.0026	.0148	1.8322	.0677
Total to Air per Ton Coke	.1720	.0014	.0024	.0006	.0004	.0032	.0183	.0088	.0003
Total to Air per Ton Coal	.1386	.0011	.0019	.0005	.0003	.0026	.0148	.0071	.0002
Total to [illegible] /Ton Cke	.0046	.1330	.0041					2.2653	.0838
[illegible]al to Water/Ton Cl	.0037	.1071	.0033					1.8251	.0675